Lakeland Intermodal Center

Feasibility Study

FINAL REPORT

Prepared for:
Florida Department of Transportation District 1

May 2020

Lakeland Intermodal Center Feasibility Study

Final Report

Prepared for:

Florida Department of Transportation District 1

801 North Broadway Avenue

Bartow, Florida 33830

Prepared by:

Atkins North America, Inc

May 2020

Acknowledgements

Project Advisory Committee

Chuck Barmby, City of Lakeland

Emily Colon, City of Lakeland

Tony Delgado, City of Lakeland

Alis Drumgo, City of Lakeland

Ron Laubach, City of Lakeland

Greg James, City of Lakeland

Teresa Maio, City of Lakeland

Angelo Rao, City of Lakeland

Brian Rewis, City of Lakeland

Shawn Sherrouse, City of Lakeland

Nicole Travis, City of Lakeland

Michael Whigham, City of Lakeland

John Yaney, City of Lakeland

Arlene Barnes, FDOT

Paul Simmons, FDOT

Michelle Peronto, FDOT

Deborah Chesna, FDOT

Craig Camuso, CSX

Cory Skeates, Lakeland Chamber

Julie Townsend, Lakeland DDA

Lucia Forero, Lakeland EDC

Michael Vann, Lakeland Electric

Katrina Strickland, Lakeland Housing Authority

Tom Philips, LAMTD

Rodney Wetzel, LAMTD

Hans Lehman, Lakeland Police Department

Nate Brandt, Lakeland Regional Health

Bryan Caripolti, Lakeland Regional Health

Elaine Thompson, Lakeland Regional Health

Julia Davis, Polk TPO

Ryan Kordek, Polk TPO

Tony Camarillo, RP Funding Center

Tim Mercier, Watson Clinic

Craig Leake, Greyhound

John Bender, Amtrak

Public Participants

Thank you to the members of the public who participated in this planning process through the two public meetings held on May 23, 2019 and November 21, 2019.

Consultant Staff

Wiatt Bowers, AICP

Rebecca Dennis, AICP

Brooke Feagle

Rohan Sadhai, AICP

Phil Shad, AICP

Mirabela Ticu, AIA

Table of Contents

Appendices

Appendix A: Public Involvement

Appendix B: Refined Site Location Analysis

Appendix C: Environmental Analysis

Appendix D: Amtrak/CSX, Greyhound Coordination

Appendix E: Resolutions

Appendix F: Refined Cost Estimates

List of Figures

List of Tables

Acronyms

ACS	American Community Survey
BRT	Bus Rapid Transit
CCC	Chairs Coordinating Committee
CIP	Capital Improvements Program
DDA	Downtown Development Authority
EIS	Environmental Impact Statement
FAR	Florida Administrative Register
FDOT	Florida Department of Transportation
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
LAMTD	Lakeland Area Mass Transit District
LIC	Lakeland Intermodal Center
LOS	Level of Service
LRTP	Long Range Transportation Plan
MPH	Miles Per Hour
NEPA	National Environmental Policy Act
PAC	Project Advisory Committee
PD	Police Department
PD&E	Project Development and Environment
PMT	Project Management Team
PNR	Park and Ride
ROW	Right-of-Way
SR	State Road
TBARTA	Tampa Bay Area Regional Transit Authority
TDP	Transit Development Plan
TIP	Transportation Improvement Program
TPO	Transportation Planning Organization

1.0 INTRODUCTION AND BACKGROUND

An intermodal center is a facility that serves as a hub for multiple modes of transportation. It allows users to easily transfer between transportation modes in one location which helps to facilitate efficiency and connectivity within the overall transportation system. Multiple modes of travel facilitated by an intermodal center include: local buses, inter-city buses, inter-city rail, bicycles, pedestrians, automobiles, and ride-sharing services. Furthermore, intermodal centers provide the community a centralized location designed for the future which facilitates enhanced connectivity and economic development.

Example intermodal center, Lynx Central Station, Orlando, Florida.

The purpose of this feasibility study is to determine a preferred location, configuration, and facilities for developing an intermodal center in or near downtown Lakeland. An initial pre-feasibility analysis was conducted in the summer of 2018. This study continues from the results of the initial pre-feasibility analysis to determine the optimal location and characteristics of the future Lakeland Intermodal Center.

Example intermodal center, Athens Transit Multimodal Center,

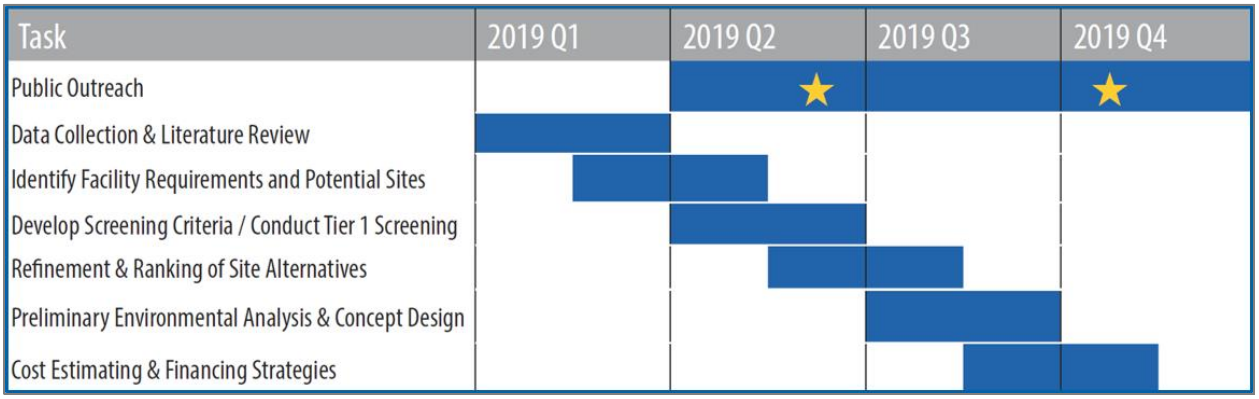
Athens Transit Multimodal Center, evening view.

This feasibility study includes the following elements:

- **Coordination** with a Project Advisory Committee (PAC), Project Management Team (PMT), and Federal agencies
- **Public outreach** including two public meetings to communicate with and receive from all interested persons, group, and additional government organizations
- **Review** of previous and ongoing studies
- **Identification** of intermodal facility requirements and potential funding sources
- **Updating** the Purpose and Need Statement developed in the pre-feasibility study
- **Identification** and feasibility analysis of potential site locations
- **Development** of concept design options
- **Providing** planning-level cost estimates and funding strategies

The initial project schedule for the feasibility study is displayed in **Figure 1-1**. The site evaluation component of the study was completed in mid-December 2019. Refined conceptual design and documentation were completed in early 2020.

FIGURE 1-1 PROJECT SCHEDULE



1.1 Project Study Area

The project study area began by defining a 500-foot buffer along the north and south sides of the CSX railroad track traversing the City of Lakeland and currently used by Amtrak for passenger rail. The western boundary is Wabash Avenue and the eastern boundary is Lake Parker Avenue. The initial project study area is illustrated in **Figure 1-2** on the following page.

1.2 Study Coordination and Management

This feasibility study was developed with the guidance of a Project Management Team (PMT) and Project Advisory Committee (PAC).

Project Management Team (PMT)

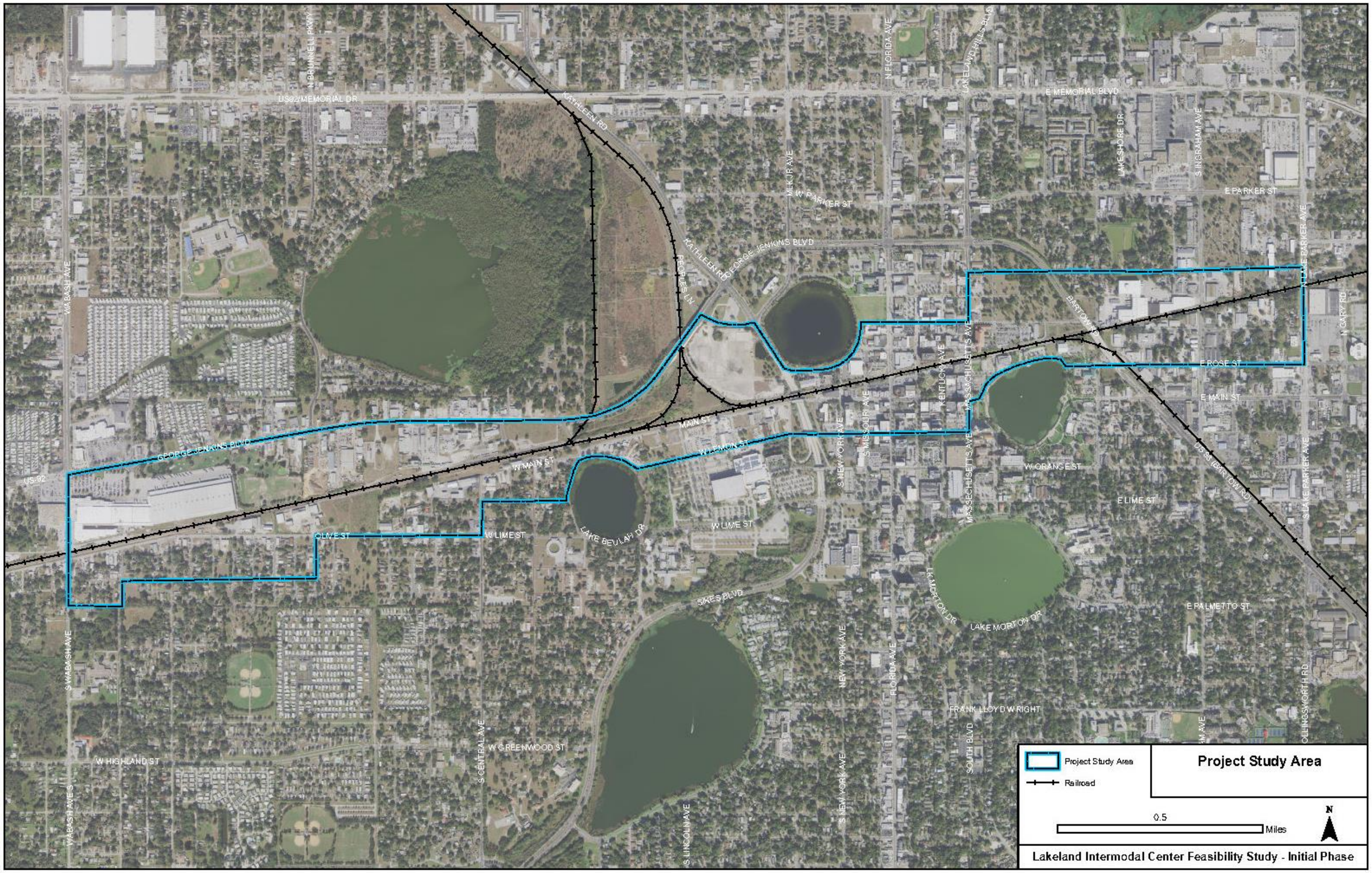
The development of the study management structure included a central Project Management Team (PMT) consisting of representatives from FDOT, the City of Lakeland, the Polk Transportation Planning Organization, and the Consultant. The PMT was responsible for overall project direction and guidance of the study.

Project Advisory Committee (PAC)

A project Advisory Committee (PAC) was utilized as an advisory review committee of draft products produced at key milestones of the study. The members of the PAC were selected by the PMT. The responsibilities of the PAC included:

- Attending the PAC Meetings that were scheduled during key project milestones
- Identifying additional stakeholders that should be engaged
- Provide input on facility requirements, screening and ranking of potential sites, and conceptual design and layout of the stations
- Share local knowledge and history

FIGURE 1-2 PROJECT STUDY AREA



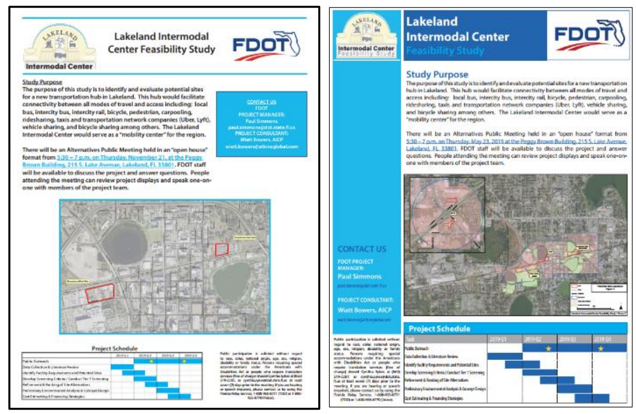
Source: LIC Pre-Feasibility Study, 2018, Figure 1

1.3 Public Involvement

The purpose of a public involvement process is to communicate with and receive input from all interested persons, groups, and government organizations regarding the development of a project. Additionally, public involvement requirements are outlined and adhered to in the *PD&E Manual* (Part 1, Chapter 11, and Part 2, Chapter 9) and the *FDOT Public Involvement Handbook.*

Public Meetings

As part of the public involvement process, two public meetings were held on May 23 and November 21, 2019. A summary of the meetings is provided in the appendix of this report. The meetings were advertised twice in the News Chief prior to each meeting, on the Florida Administrative Register (FAR) website, and on the City of Lakeland's website. Additionally, elected officials, appointed officials, and various public interest groups were notified of the public meetings. Handouts were also distributed to more than 30 local community centers and on Citrus Connection buses throughout the area.



Public Meeting Handouts.

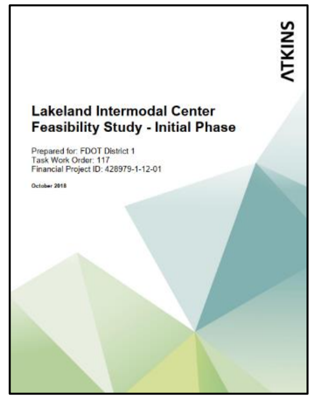
Public Meeting #1.

Project Advisory Committee (PAC) Meetings

Five PAC Meetings were held over the course of the project on the dates listed below. The results of each meeting are included in various sections of the report.

- February 4, 2019
- March 26, 2019
- June 13, 2019
- October 1, 2019
- December 12, 2019

1.4 Pre-Feasibility Study


ATKINS

Lakeland Intermodal Center
Feasibility Study - Initial Phase

Prepared for: FDOT District 1
Task Work Order: 117
Financial Project ID: 428979-1-12-01

October 2018

A pre-feasibility study was conducted in the summer of 2018 as the initial phase of the overall feasibility study for the intermodal center. Since the pre-feasibility served as the first phase of the overall study, several of the key sections of the final report are included in this section.

Study Overview

The pre-feasibility study was the first step in a renewal of planning for the Lakeland Intermodal Center (LIC), sponsored by the Florida Department of Transportation (FDOT) District One. The study synthesized prior planning efforts and stakeholder coordination meetings and received updated input on the concept of the LIC and potential siting options. This high-level review included a Purpose and Need statement serving as the vehicle for presenting the work conducted in this initial phase. Additionally, this initial review made the case for further planning and development, forming the basis for a second phase of study that would entail a more detailed planning and feasibility study. That study would define key planning parameters, investigate facility siting options, and develop potential space program requirements and site configurations.

Purpose and Need Statement

The purpose of the proposed LIC is to provide a multimodal hub serving local bus (Citrus Connection), Greyhound, Amtrak, other future modal options such as a downtown circulator trolley, Brightline, SunRail commuter rail extensions or possible bus-based precursor routes, and planned Bus Rapid Transit (BRT) lines. This hub would service travel oriented to and from service providers while facilitating connectivity between all modes of travel. In addition, facility planning would incorporate and integrate all modes of access including intercity bus services, bicycle, pedestrian, carpooling, ridesharing, taxis and transportation network companies (Uber, Lyft), vehicle sharing, bicycle sharing, scooters if and when approved locally, and golf carts. In effect, it would serve as a "mobility center" for the region.

There is presently no consolidated location where multiple travel modes are able to converge to provide a more seamless travel experience for persons not traveling by automobile. This lack of connectivity is a hindrance to the attractiveness of non-auto travel. As the Lakeland area continues to grow, the integration of travel modes – locally and regionally, existing and future – at a common site will become more and more critical to areawide mobility choices and ease of non-auto travel.

The current Downtown Terminal site operated by the Citrus Connection has become functionally obsolete. It consists of 16 bus bays situated on a 0.72-acre parcel. It has no on-site parking and is physically constrained by North Missouri Avenue to the west, North Florida Avenue to the east, the CSX Railroad tracks to the south, and a privately-owned senior medical center to the north. Because of these spatial constraints, expansion of this site is not feasible. During rail crossing closures, buses are unable to exit the terminal and travel southbound which significantly effects on-time performance. The site also experiences significant run-off issues from the bus canopies during rain events. A new facility for the Downtown Terminal is critical for the continued operation and expansion of the Citrus Connection system, whether or not the existing site is part of a future LIC siting concept.

Safety, in relation to access to the existing Downtown Terminal, is also an important consideration. Due to the close proximity to the CSX railroad tracks, pedestrians traveling to the terminal from the south are required to cross the railroad tracks. While designated crossing locations and pedestrian facilities are located on both North Missouri Avenue and North Florida Avenue, pedestrians often cross at non-designated locations without grade crossing signals creating dangerous conflicts with trains.

Furthermore, the existing Amtrak facility was constructed nearly over 20 years ago and is in need of some refurbishment and modernization. If it were to become a component of the LIC, its functionality for rail and possibly other modal travelers could be capitalized upon.

By providing better connectivity between all non-auto modes of travel and the auto-based access components as well, the LIC has the potential to become a key activity center within Lakeland, and a "one-stop shop" for all things transportation.

Project Study Area

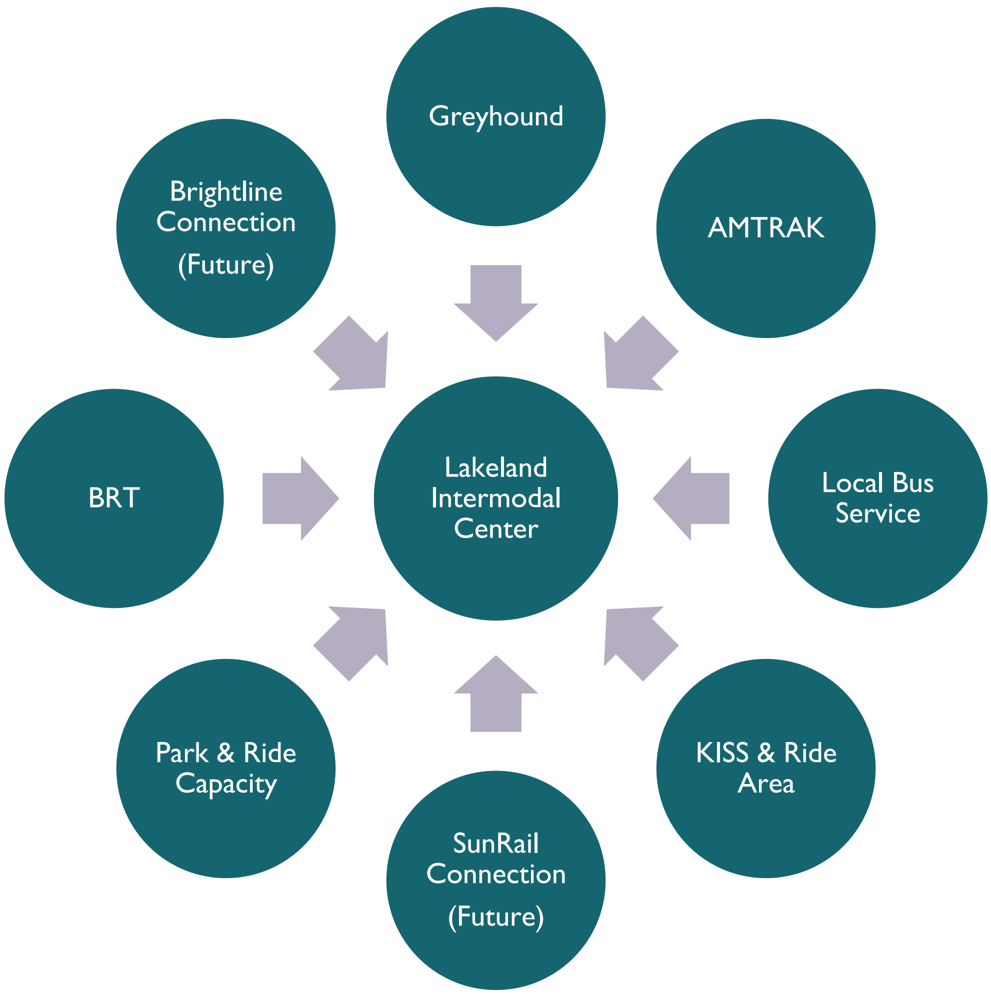
Since Amtrak was identified as a necessary component of any new intermodal center, the project study area was defined by using a 500-foot buffer along both the north and south sides of the CSX railroad track which traverses (east-west) the City of Lakeland and is currently used by Amtrak for passenger rail. Parcels within this buffer and adjacent to the railroad corridor were selected for consideration as potential sites on a preliminary basis. The eastern and western boundaries of this area encompass downtown Lakeland, with Wabash Avenue as the western boundary and Lake Parker Avenue as the eastern boundary.

Stakeholder Meetings

The pre-feasibility process consisted of two meetings: one with the Lakeland Area Mass Transit Department (Citrus Connection) staff and another with the City of Lakeland staff. The meeting with the City of Lakeland consisted of members of numerous departments representing a robust cross-section within the City of Lakeland administration. While these meetings represent initial stakeholder outreach, the pre-feasibility study noted the importance of reaching a broader consensus for the future intermodal center. As the feasibility study moves forward in subsequent phases, additional outreach and collective agreement will need to be reached with other stakeholders including, but not limited to, the City of Lakeland City Commission, City of Lakeland Historic Preservation Board, City of Lakeland Police Department, and Lakeland Downtown Development Authority.

Project Vision

The stakeholder meeting process provided a clearer picture of the desired vision of the proposed intermodal center as well as informative insights into its potential functional components and facility requirements. The vision includes existing and/or future transportation elements. The overall vision for the project is that the LIC would be a robust, all-inclusive facility that meets the current multimodal needs of the City of Lakeland and is conceived to be able to meet the future needs and demands. The graphic below portrays schematically the role that the LIC would play within the Lakeland transportation scene.



Issues and Constraints

Through field visits and prior research as well as input from the stakeholder meeting process, the following issues and constraints were identified:

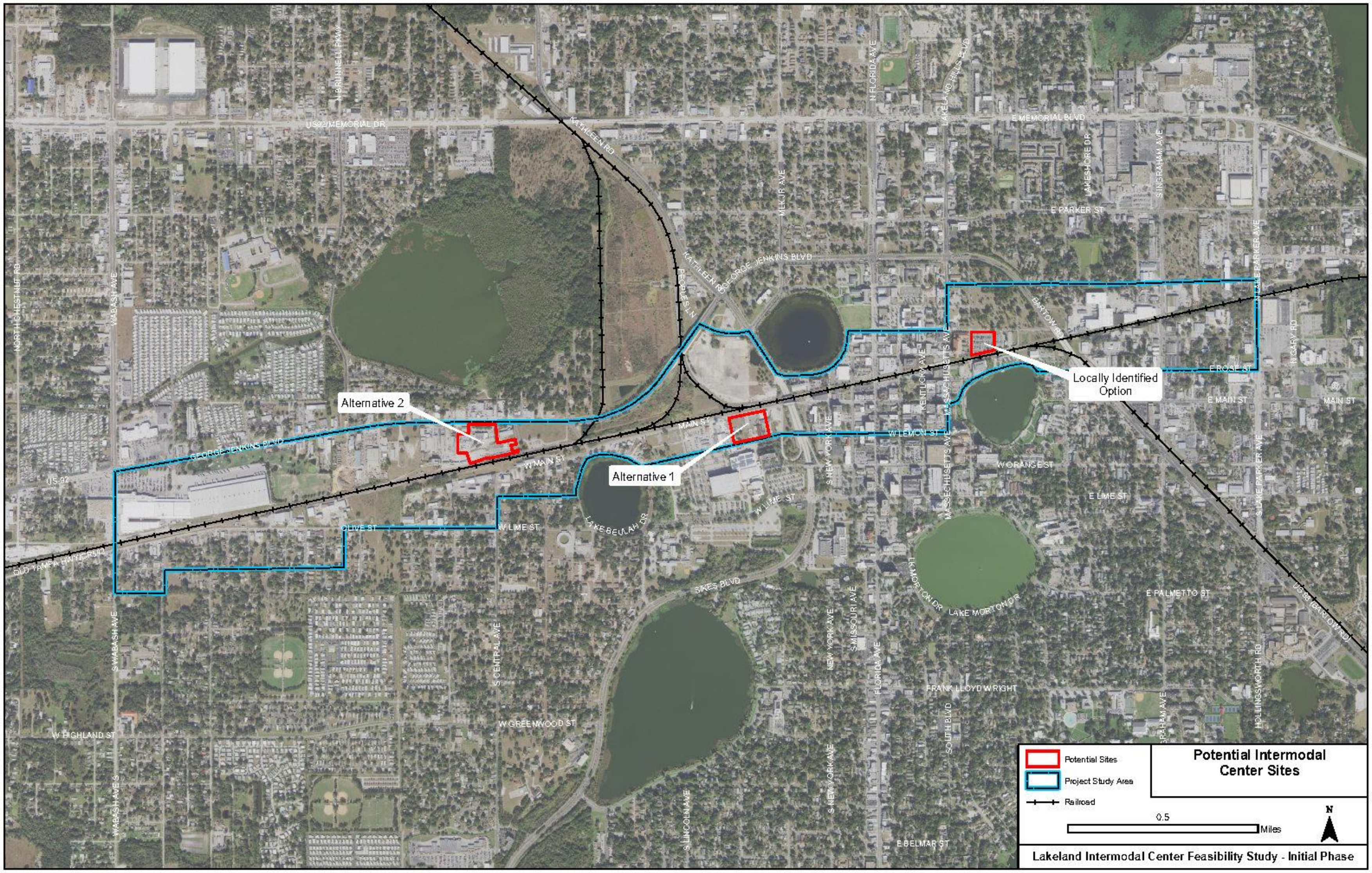
- Accommodation of Amtrak service requires any new location to be adjacent to the CSX Railroad which limits potential sites. Train routings and track usage may be other considerations.
- Must be situated within downtown Lakeland.
- Must have enough space to accommodate the length of an Amtrak train (estimated at 1,000-1,200 feet in length).
- Would need to be located to allow for appropriate circulation for buses.
- Needs to have capacity to accommodate park-and-ride users, potentially a parking garage.
- It is preferred that any potential site be located on publicly-owned property to expedite the development timeline (however, land swaps with private owners should be considered if a highly functional and well-located facility would result).

Potential Site Evaluation

Three potential sites (shown in **Figure 1-3** on the following page) were identified preliminarily based on proximity to the CSX Railroad and public ownership. The site adjacent to the police station and the current Amtrak station was discussed and studied previously and appeared to be the initially locally preferred site. It is noted that the discussion with local stakeholders noted that privately-owned parcels, land swaps, and other similar arrangements in considering assemblage of conceptual sites should not be ruled out. These sites were identified based on an initial cursory evaluation and other potential sites are not precluded from study in subsequent phases.

- Site 1: Locally Identified Option (approximately 2.1 – 3.3 acres)
  - Current use: Lakeland Police Department Parking
  - Pros: Adjacent to CRA development area (North Lake Mirror Redevelopment Project); would not require relocation of AMTRAK station
  - Cons: Limited space available; requires construction of a pedestrian overpass to reach AMTRAK platforms
- Site 2: Alternative 1 (approximately 4.1 acres)
  - Current use: Vacant warehousing/City of Lakeland storage facility
  - Pros: Adjacent to RP Funding Center (mixed-use opportunities); large size
  - Cons: Would require AMTRAK station relocation and a pedestrian overpass across Main Street to reach platforms
- Site 3: Alternative 2 (approximately 6.4 acres)
  - Current use: Citrus Connection vehicle maintenance and storage facilities
  - Pros: Large size; directly adjacent to existing tracks with dedicated siding
  - Cons: Requires relocation of Citrus Connection and AMTRAK station; limited TOD opportunities; located on the periphery of Downtown Lakeland

FIGURE 1-3 PRE-FEASIBILITY STUDY SITE LOCATIONS



Source: LIC Pre-Feasibility Study, 2018, Figure 3

1.5 Previous and On-Going Studies

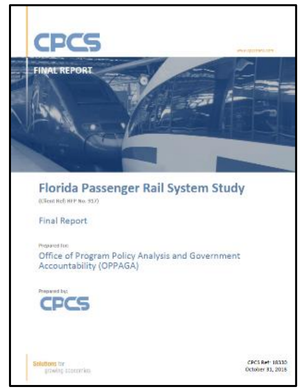
In addition to the pre-feasibility study, previous and on-going studies were reviewed for relevant information and findings that may influence or provide insights to the project. The studies are listed in **Table 1** and further summarized in this section.

TABLE 1 STUDIES REVIEWED

Study Name	Year	Geography	Description
Florida Passenger Rail System Study	2018	Statewide	Examined all existing and planned passenger rail systems in FL that are under the Federal Railroad Administration jurisdiction.
My Ride Transit Development Plan (TDP)	2017	Polk County	10-year plan guiding community investment in transit services.
Downtown Lakeland Pedestrian Crossings PD&E Study	2017	City of Lakeland	Evaluated potential pedestrian crossings at Kentucky Avenue and New York Avenue in the City of Lakeland.
TBARTA Regional Transportation Master Plan	2015	Regional	Summarizes TBARTAs current and future service for the region including plans for Polk County.
Polk TPO LRTP 2040 (Momentum 2040)	2015	Polk County	Summarizes Polk County's LRTP. Includes the SunRail Feasibility study.
Polk Rail Study Alternatives	2014	Polk County	Study to improve regional freight and highway mobility and connectivity, enhance rail safety and operations, and minimize existing and future freight rail impacts.
Westshore Multimodal Study	2012	City of Tampa	Study to identify viable sites for a regional intermodal center in the Westshore area.
Polk At-Grade Crossings Study	2009	Polk County	FDOT rail traffic evaluation study technical memo for at-grade crossings in Polk County.
Passenger Rail Options Study	2009	Polk County	FDOT rail traffic evaluation study technical memo for passenger rail options in Polk County.
Rail Relocation Options Study	2009	Polk County	FDOT rail traffic evaluation study technical memo for rail location options in Polk County.
Florida High Speed Rail PD&E	2005	Regional	Environmental Impact Statement (EIS) that evaluated high speed rail on existing ROW from Tampa to Orlando.

FLORIDA PASSENGER RAIL SYSTEM STUDY (2018)

Prepared for: Office of Policy Analysis and Government Accountability



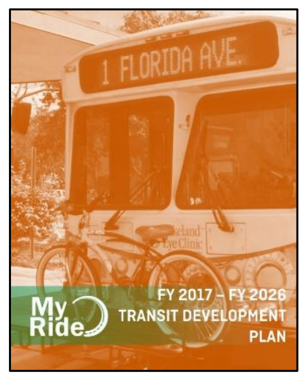
Synopsis: Examined all existing and planned passenger rail systems in Florida that were under the Federal Railroad Administration (FRA) jurisdiction including Amtrak, Brightline, SunRail, and Tri-Rail. The study provided an inventory and description of the Florida Passenger Rail System, an analysis of incident data, and provided a set of recommendations to improve passenger rail operations, safety, and railroad policy in Florida.

Relevant Findings:

- There are gaps in regulations specific to higher-speed rail (126 mph to 220 mph) operations and rail expansion projects.
- There is a need to clarify FDOT's mandate on oversight of passenger rail regarding maintenance, safety, revitalization, and expansion.
- There is a lack of resources for local governments for rail planning projects.
- Florida's passenger rail system experiences a higher rate of severe injuries and fatalities than the national average; this is mainly due to a high count of pedestrian and vehicular trespassing incidents.

MY RIDE TRANSIT DEVELOPMENT PLAN 2017-2026 (2017)

Prepared for: Polk Transportation Planning Organization (Polk TPO)



Synopsis: Serves as a strategic guide for public transportation in Polk County over the next 10 years. Includes study area conditions including demographic characteristics, an evaluation of existing transit services in the county, market research and public involvement, situational appraisal, and needs assessment.

Relevant Findings:

- Strategies to increase efficiency of service is critical due to fiscal constraints after the failure of the 2014 sales tax referendum.
- Since 2012, transit services in the county were consolidated from three separate agencies into one, the Lakeland Area Mass Transit District (LAMTD).
- A goal of the LAMTD and Polk TPO is to continually improve transit service.
- Polk County is undergoing a shift in demographics, development patterns, and transportation investments.
- Rider satisfaction is generally high with a demand for more service.
- Identified highest-priority routes travel through the study area.

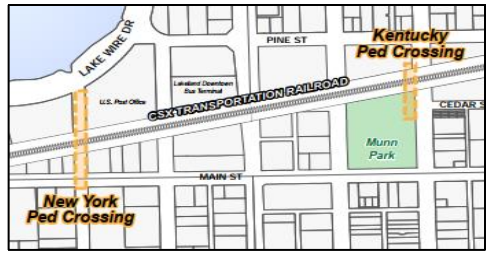
Progress / Updates:

- Citrus Connection route system redesign became effective October 2019.
- Gow Fields Park & Ride opened. Phase 2 is underway, and funding for Phase 3 has been requested.
- Funding for transit signal priority in central Lakeland has been programmed by FDOT for FY 2022.
- Partnerships continue with developers for enhanced transit service and amenities

DOWNTOWN LAKELAND PEDESTRIAN CROSSINGS PD&E STUDY (2017)

Prepared for: FDOT

Synopsis: Investigate safe crossing opportunities for pedestrians and/or bicyclists at the existing at-grade Kentucky Avenue and closed New York Avenue railroad crossings. A pedestrian bridge was proposed at this location to provide enhanced mobility across the railroad tracks and minimize pedestrian interaction with the existing freight and passenger trains in Downtown Lakeland.



Source: PD&E Public Workshop Presentation

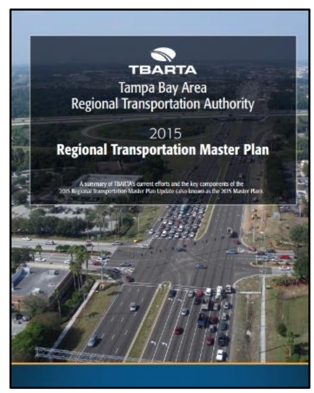
Relevant Findings: The Lakeland Commission voted for the No-Build Alternative at the crossing and instead implement safety enhancements at the at-grade existing crossing due to lack of project need, community impacts, and lack of public and agency support.

Progress / Updates: FDOT has commenced design on New York Avenue overpass between Main Street and Lake Wire Drive, with ROW funding programmed in the FDOT Work Program. The overpass is an extension of the New York Avenue Cycle Track, opened in August 2019. FDOT is scoping a feasibility study for the West Lake Hunter Trail, which extends the Cycle Track along SR 563/Sikes Boulevard to Ariana Street as part of a long-term pathway corridor to southwestern Lakeland.

TBARTA REGIONAL MASTER PLAN (2015)

Prepared for: Tampa Bay Regional Transportation Authority (TBARTA)

Synopsis: Consolidates several regional planning documents into one Regional Master Plan moving towards a regional transportation vision balancing the movement of passengers and freight. Goals are to reduce vehicle miles traveled and increase occupancy; shift trips to alternate modes; and improve roadway operations.



Relevant Findings:

- SR 60/Adamo Drive between Hillsborough and Polk counties identified as one of the 10 most congested corridors in the region.
- Even though Polk County is not one of the counties covered by TBARTA, they serve on the Chairs Coordinating Committee (CCC) and the Transit Management Committee.
- Lakeland Square Mall, Lakeland Regional Medical Center, and Downtown Lakeland identified as regional activity centers.
- Most Polk County residents commute within the county with approximately 192,174 daily work trips.
- About 7% of the Polk County commuters travel regionally. The greatest amount of regional commuting is to Hillsborough County with approximately 12,356 daily work trips.

Progress / Updates:

- Gow Fields and Lakeland Park Center park & ride facilities opened.
- Lakeland / Polk County transit market analyzed in a regional transit report prepared by the Central Florida MPO Alliance. Study notes Lakeland's unique position in being able to link transit services between Orlando and Tampa Bay regions.

MOMENTUM 2040: POLK TPO LRTP (2015)

Prepared for: Polk TPO

Synopsis: Long Range Transportation Plan through the planning horizon year 2040. Primary theme to progress the growing economic opportunities and quality of life of the county. Challenges include safety concerns, growth and demand, and declining county revenues.

Relevant Findings:

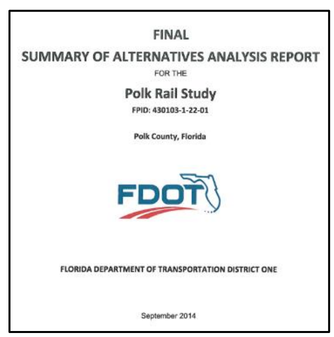
- An existing unfunded transit needs identified is a new, fixed-route bus rapid transit (BRT) and express service through Downtown Lakeland.
- The top three transit priorities identified through public outreach were: 1) Lakeland Sun Rail Express, 2) Lakeland to Polk Commerce Drive, 3) Downtown Lakeland BRT.
- There are future plans to widen Wabash Avenue between Ariana Street and US 92.
- In 2015, Citrus Connection cut services within the Lakeland urbanized area approximately 18% on weekdays and 88% on Saturdays due to budgetary restraints. A top priority of the LRTP is to restore services to former levels.
- The high amount of freight operations adds difficulty to implementation of SunRail expansion to Lakeland.

Progress / Updates:

- The Polk TPO completed a stand-alone analysis of SunRail Expansion options, which was incorporated into the 2040 long-range transportation plan.
- The Lakeland Area Alternatives Analysis study is evaluating the potential for BRT on the US 98 corridor connecting Bartow and Lakeland. The study is also evaluating connections from downtown to the I-4 area.
- Citrus Connection Re-Route 2020 system redesign became effective October 2019.

POLK RAIL STUDY ALTERNATIVES (2014)

Prepared for: FDOT


FINAL
SUMMARY OF ALTERNATIVES ANALYSIS REPORT
FOR THE
Polk Rail Study
FPID: 430103-1-22-01
Polk County, Florida
FDOT
FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT ONE
September 2014

Synopsis: A study for Polk County to improve regional freight and highway mobility and connectivity, enhance rail safety and operations, and minimize existing and future freight rail impacts to urban areas and the environment. Provided recommended short- and long-term improvements.

Relevant Findings:

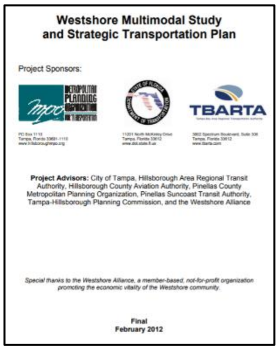
- Recommended short-term alternatives: Further study for a pedestrian overpass at Munn Park/Kentucky Avenue and a bike/ped underpass at New York Avenue (studied and no-build recommended in 2017).
- Recommended long-term alternatives: No-build Alternative; Van Fleet/TECO Alternative (extends CSC Line "S" to Winter Haven); McIntosh Spur Alternative (extends 82 miles from Coleman to Winter Haven); Polk City Alternative (extends 81 miles from Coleman to Winter Haven).
- City believes a new freight rail corridor is crucial to receiving commuter passenger rail service in downtown.

Progress / Updates:

- FDOT has commenced design of a New York Avenue overpass between Main Street and Lake Wired Drive. ROW funding is programmed in the FDOT Work Program.

WESTSHORE MULTIMODAL STUDY AND STRATEGIC TRANSPORTATION PLAN (2012)

<u>Prepared for</u>: FDOT, TBARTA, Hillsborough MPO



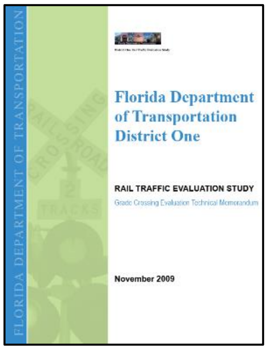
<u>Synopsis:</u> A study to identity viable sites within the core Westshore area that will provide connectivity for all existing and future planned modes of transportation in the Tampa Bay region, improve regional mobility and accessibility by means other than personal motor vehicles.

<u>Relevant Findings:</u>

- Guiding principles for site selection and evaluation included: TOD and redevelopment potential; local and regional connectivity; cost effectiveness; safety and security; environmental stewardship/community preservation; collaborative partnerships; constructability/flexibility; location/geography.
- Study phases: site identification, site evaluation and screening, and site development.
    - Site identification: Parcels greater than 8 acres in core focus area
    - Site evaluation/screening: Quantitative evaluation used 32 screening criteria based on guiding principles to narrow sites. Qualitative evaluation compiled information from interviews, meetings, public engagement, FTA, and funding sources.
    - Site development: Development of a preliminary architectural program and conceptual designs for the remaining four sites. Major elements: access, circulation, site amenities, and station amenities.

POLK AT-GRADE CROSSINGS STUDY (2009)

<u>Prepared for:</u> FDOT



<u>Synopsis:</u> Examined the effect of increased freight rail traffic on at-grade crossings in Polk County comparing existing 2008 level of service (LOS) and projected 2030 future LOS. Community impacts were also considered. Provided recommendations for improving LOS at crossings that are expected to decline.

<u>Relevant Findings:</u>

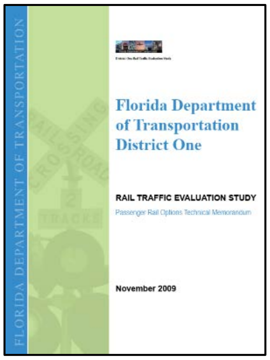
- There are 20 average daily trains in both directions along the "S" Line within the Lakeland IMC study area. These are projected to increase to about 27 trains by 2030.
- The implementation of quiet zones in Downtown Lakeland is recommended to increase fluidity of train movements within the county. This would require upgrades to the crossing warning devices to meet minimum FRA requirements.
- Recommends shifting crew change points from immediately outside of Downtown Lakeland to Winter Haven to reduce stoppages and slower train movements.
- Safety improvements are recommended at the Wabash Road crossing.

<u>Progress / Updates:</u>

- A quiet zone has been implemented in downtown. Supporting improvements included installation of four-quad gates at each crossing between Ingraham Avenue and Missouri Avenue. The New York Avenue crossing was removed, and the overpass is intended to mitigate the crossing closure. Safety improvements have also been made at the Wabash Avenue crossing.

POLK PASSENGER RAIL OPTIONS (2009)

Prepared for: FDOT



Synopsis: Identified and evaluated potential projects, improvements, or strategies to address community concerns related to rail services. Focused on potential connections to Orlando or Tampa, other rail options, physical and operational feasibility, potential riders, and typcial costs. Conceptual service plans were also provided.

Relevant Findings:

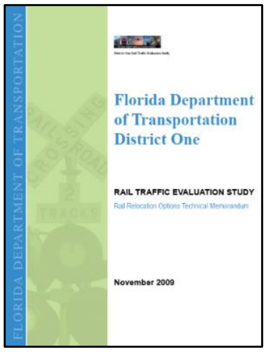
- The greatest regional transportation need identified was east-west travel through Polk County connecting Hillsborough and Orange counties.
- Existing rights-of-way (highway or rail) provide ideal options for joint transportation use.
- The potential east-west corridors identified were the I-4 median and the CSX A-Line. The A Line proved more ideal as it provides direct connectivity to central business districts.
- The A-Line option (included in 3 additional alternatives) would include a station on Main Street in Lakeland, which would need station upgrades to accommodate new service along with a vehicle base facility.
- The 2030 market potential for the passenger rail alternatives ranges from approximately 2,100 – 3,700 riders per day in both directions.

Progress / Updates:

- Lakeland / Polk County transit market analyzed in a regional transit report prepared by the Central Florida MPO Alliance. Study notes Lakeland's unique position in being able to link transit services between Orlando and Tampa Bay regions.

POLK RAIL RELOCATION OPTIONS (2009)

Prepared for: FDOT



Synopsis: Examines rail relocation and reconfiguration options for Polk County. Identifies potential challenges, costs, and impacts of each option. Investigates strategies for minimizing impacts of freight rail traffic within the county. Eight alternatives were identified branching off various points from the CSX "S" Line. Coleman, Florida is a common point of departure for each alternative.

Relevant Findings:

- A majority of the alternatives were further and more recently vetted in the 2014 Polk Rail Study earlier in this section.
- Communities were concerned about the potential shift of freight traffic from the center of Lakeland to their communities and what impacts that may have.
- CSX expressed concerns with preserving the functionality and operational efficiency of the statewide freight network.
- The Downtown Lakeland Partnership expressed concerns about the impact of additional freight rail traffic on downtown businesses.

Florida High Speed Rail PD&E (2005)

Prepared for: Florida High Speed Rail Authority

FLORIDA HIGH SPEED RAIL AUTHORITY
TAMPA--ORLANDO

Synopsis: An Environmental Impact Statement (EIS) that evaluated high speed rail alternatives for service between Tampa and Orlando. Alternatives included: no build (no service), two technology alternatives, and four alignment alternatives for each technology.

Relevant Findings:

- 9 alignments were evaluated for Polk County including the I-4 and CSX rail corridors, with connections between the two. The CSX corridor was eliminated due to impacts to community facilities.
- The I-4 alignment in Polk and Hillsborough counties, and the Bee Line Expressway (SR 528) in Orange County were the preferred alternatives.
- The preferred station to serve the Lakeland area is located in the northwest quadrant of the Polk Parkway/I-4 interchange. The station configuration includes a median platform and pedestrian bridge crossing to the main station on the north side of I-4.
- Gas turbine technology was identified as the preferred technology.
- Projected annual ridership for 2010 ranged between 2.4 and 4.1 million depending on the alternative.

2.0 Existing Conditions

A comprehensive inventory of the factors that influence and impact travel conditions and patterns within the study area was collected. The set of factors evaluated range from demographics, community resources and environmental systems, land use and development characteristics, and the transportation system. A summary of the findings is included in this section.

2.1 Project Advisory Committee (PAC) Meeting #1

The first PAC Meeting was held at the beginning of the project on February 4, 2019. The meeting agenda included:

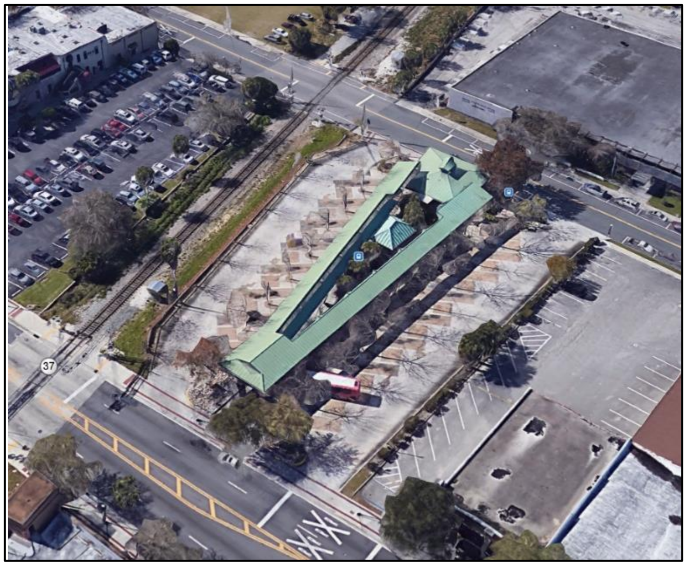
- Study background with an overview of the scope and schedule
- Discuss the role of the PAC
- Review of previous studies
- Data collection
- Discussion on facility requirements
- Next steps

2.2 Existing Lakeland Downtown Bus terminal

The existing Lakeland Downtown Bus Terminal is currently used by the Citrus Connection and is located between Missouri Avenue and Florida Avenue directly adjacent to the CSX railroad tracks. It is approximately 1 acre and has 16 bus bays.

Presently, the Downtown Lakeland Terminal does not serve multiple modes of travel- only local bus service. The current terminal has no on-site parking and no ability to expand due to the physical constraints of its location. There are also safety concerns related to accessibility of the Lakeland Downtown Terminal. Buses are required to back out from their bays, increasing the risk for conflicts with pedestrians.

Pedestrians traveling from the south must cross the CSX railroad tracks in order to reach the Terminal. Oftentimes, pedestrians cross at non-designated locations without signals in order to reach the Terminal. The existing Amtrak station is located approximately 1/3 of a mile to the east of the Lakeland Downtown Terminal and was constructed over 20 years ago.



Existing Lakeland Downtown Bus Terminal.

2.3 Current Services, Operational Conditions, and Needs

The current services and operational conditions evaluated include existing transit service provided by Citrus Connection; Megabus, and Greyhound service; future rail and transit opportunities; and multi-modal opportunities.

Transit Service

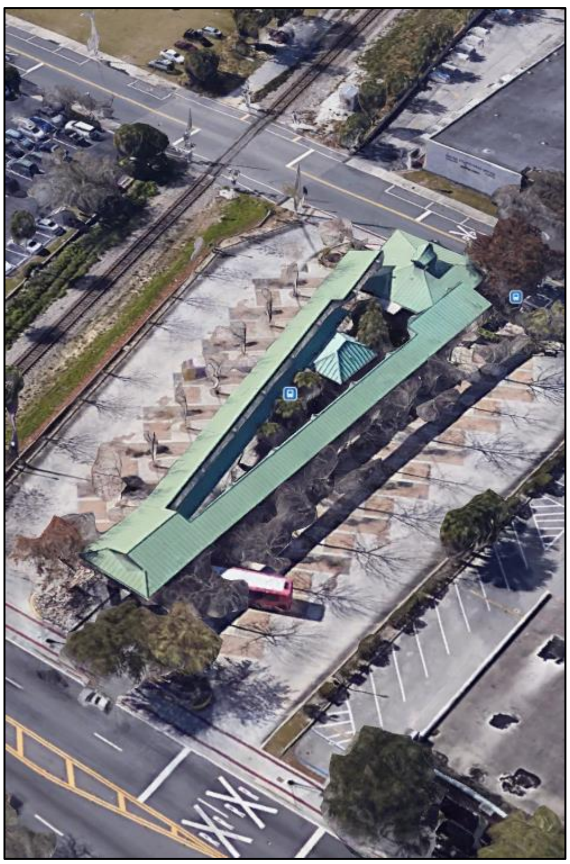
Existing public transit service throughout Polk County is provided by the Lakeland Area Mass Transit District, operating as Citrus Connection. Generally, service is provided six days a week, Monday through Saturday from 6: 15 AM to 7:15 PM. There are currently 14 bus routes traversing through the study area utilizing the existing downtown Lakeland bus station. Further details on the existing downtown bus station, routes, and ridership facility are included in this section.

CitrusConnection

Lakeland Central Terminal

The existing central terminal in downtown Lakeland is located at 207 N Missouri Avenue across from the downtown post office and adjacent to the rail line on approximately one acre. The terminal has parking for 16 buses. Additionally, the terminal is equipped with benches, shade, lighting, restrooms, a pay phone, and is a designated 'Safe Place'.

Lakeland Downtown Terminal. Source: Google Maps, February 2017



Lakeland Downtown Terminal.

Lakeland Downtown Terminal.

CITRUS CONNECTION ROUTES

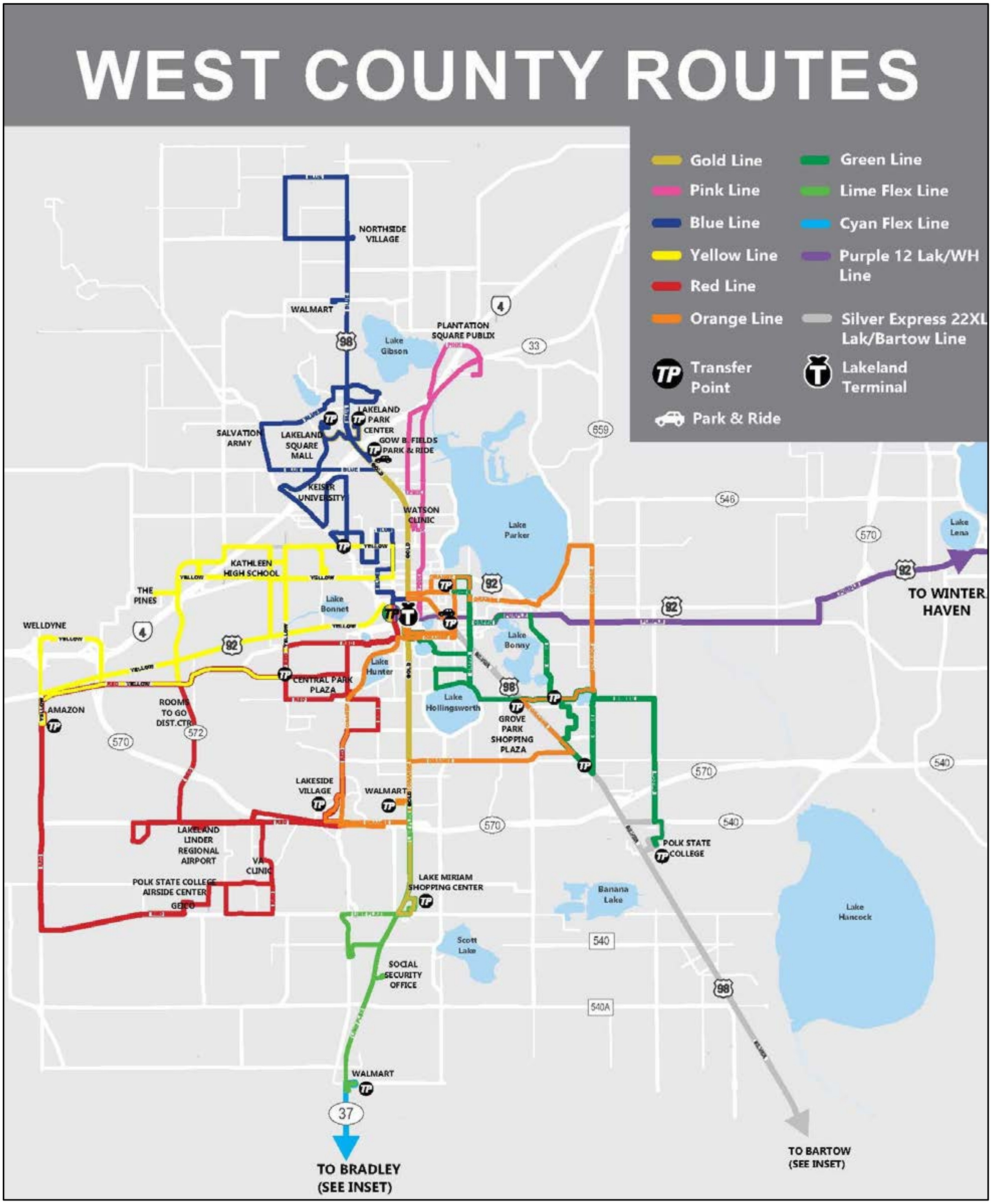
There are currently 14 bus routes traversing through the study area. A map of the current routes dated October 2019 is displayed **Figure 2-2** and the routes from the previous year (October 2018) are displayed in **Figure X**. **Table 2** summarizes the routes and route performance based on the 2018 data.

TABLE 2 CITRUS CONNECTION ROUTE SUMMARY

Route #	Route Name	Route Type	Route Description	Approx. Weekday Headways	Avg. Hourly Ridership	Route Perfor-mance
1	Florida Avenue Corridor	Urban Fixed	Lake Miriam Shopping Center to US 98 Park and Ride (PNR)	30 mins	18.9	Good
3	Lakeland Hills Corridor	Urban Fixed	Lakeland Terminal to Plantation Square Publix	30 - 60 mins	15.7	Good
10	Circulator	Residential Fixed	Lakeland Terminal to Town Center at Ingraham Avenue	60 mins	9.1	Fair
12	Lakeland/ Winterhaven	Residential Fixed	Lakeland Terminal to Winter Haven Terminal	60 mins	-	-
14	Combee/ Edgewood	Residential Fixed	Lakeland Terminal to Walmart at Imperial Boulevard	120 mins	12.2	Good
15	Kathleen/ Providence /Harden	Residential Fixed	Lakeside Village to Lakeland Square Mall	60 mins	11.4	Good
22 XL	Bartow Express to Lakeland	Urban Fixed	Lakeland Terminal to Polk County Courthouse	90 mins	24.7	Good
33	South Florida/ Carter Road	Flex/Rural	Walmart at Imperial Blvd. to Lake Miriam Shopping Center	60 mins	7.1	Fair
39	Bradley Flex	Flex/Rural	Walmart at Carter Road to Whidden Street/Main Avenue	5 hours	6.0	Fair
45	George Jenkins/Swindell	Residential Fixed	Lakeland Terminal to Wabash Avenue/Highland Street	60 mins	15.7	Good
46	10th/Wabash/ Ariana	Residential Fixed	Lakeland Terminal to Central Park Plaza	60 mins	11.3	Good
47	Duff Road Shuttle	Residential Fixed	US 98 PNR to Northside Village	60 mins	7.6	Fair
58	College Connector	Residential Fixed	Polk State College to Veterans Affairs Clinic	60 mins	9.8	Fair
61	US 98N Banana Road	Residential Fixed	US 98 PNR to Lakeland Square Mall	60 mins	3.7	Poor

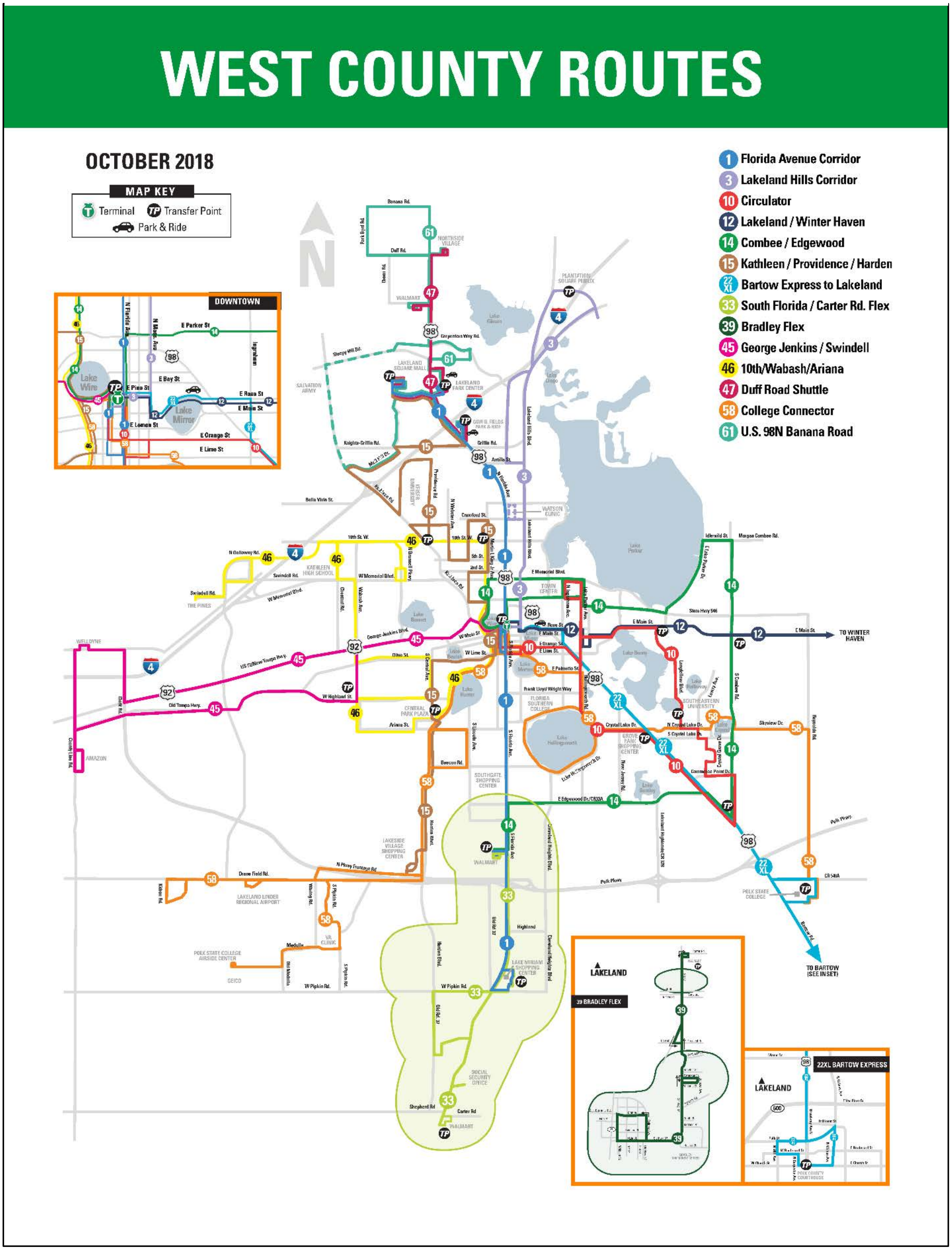
Note: Route information as of October 2018 derived from Citrus Connection website. Average hourly ridership determined using 2018 3rd Quarter data from Citrus Connection. Route performance determined using the 2018 3rd Quarter Ridership Scorecard which rated route performance based on route type and average hourly ridership (www.ridecitrus.com/about-us/community-scorecard).

FIGURE 2-1 DOWNTOWN CITRUS CONNECTION ROUTES, 2019



Source: Citrus Connection website, www.ridecitrus.com, 2020

FIGURE 2-2 DOWNTOWN CITRUS CONNECTION ROUTES, 2018



Source: Citrus Connection website, www.ridecitrus.com, 2019

Train, Megabus, and Greyhound Service

Passenger train (Amtrak), Megabus, and Greyhound service is provided in downtown Lakeland.

Train Service

Train service for the downtown Lakeland is provided by Amtrak, with a station located at 600 E Main Street on the north shore of Lake Mirror. Same day parking is available. Overnight station parking is not currently available. Station hours are Monday through Sunday 10:00 AM to 6:00 PM.

Lakeland Amtrak Station. Source: Google Maps, February 2017

Daily service is provided by the Silver Star route traveling between New York City and Miami providing direct service from Lakeland to 25 cities in addition to connecting service via Thruway bus service.

The Rail Passengers Association (www.railpassengers.org) reported the following statistics for the Lakeland Amtrak station in 2017:

- 19,479 total passengers
  - Passengers declined about 1,000 per year from 2013-2017
- Average trip was 288 miles
- Average fare was $49
- Average yield per mile was $0.17
- Station handled 1,665 passengers via connecting Thruway bus service

Megabus Service

Megabus provides connections across North America and operates luxury double decker buses equipped with amenities such as free Wi-Fi, power outlets, and panoramic windows. The Megabus stop in Lakeland is located at the Citrus Connection Gow B. Fields Park and Ride lot located at 3255 US 98 N and Pyramid Parkway. Buses run up to two trips per day to the following destinations: Miami, Ft. Lauderdale, Orlando, and Tampa.

Megabus image. Source: us.megabus.com/about-us

Greyhound Service

Greyhound service operated from the Lakeland Bus Station Amtrak in downtown Lakeland when the study began. Operating hours were Monday through Saturday from 10:00 AM to 6:00 PM. In mid-2019, Greyhound closed the station in mid-2019, and relocated its services to the Amtrak station. Greyhound offers express trips from the Lakeland station to locations such as Orlando, Tampa, St. Petersburg/Clearwater.

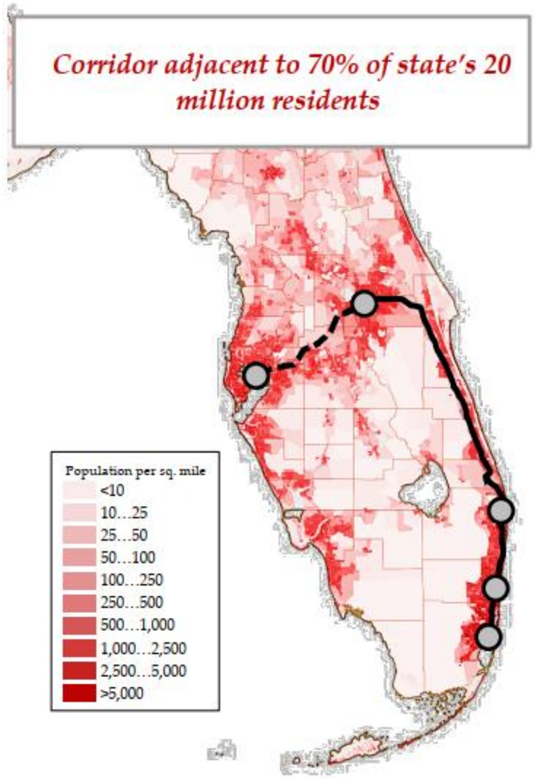
FUTURE RAIL AND TRANSIT OPPORTUNITIES

Brightline and Virgin Group formed a strategic partnership in 2019 to establish the new brand "Virgin Trains USA". The current Florida Brightline system started in south Florida with construction from 2014 to 2017, with $1.5 billion in investment. The system operates hourly service along the 67-mile corridor.

There are currently stations in Miami, Ft. Lauderdale, and West Palm Beach with planned stations in Orlando and the Lakeland/Tampa area. The preferred alternative for the Tampa expansion from Orlando follows the I-4 corridor near Lakeland.

MULTIMODAL OPPORTUNITIES

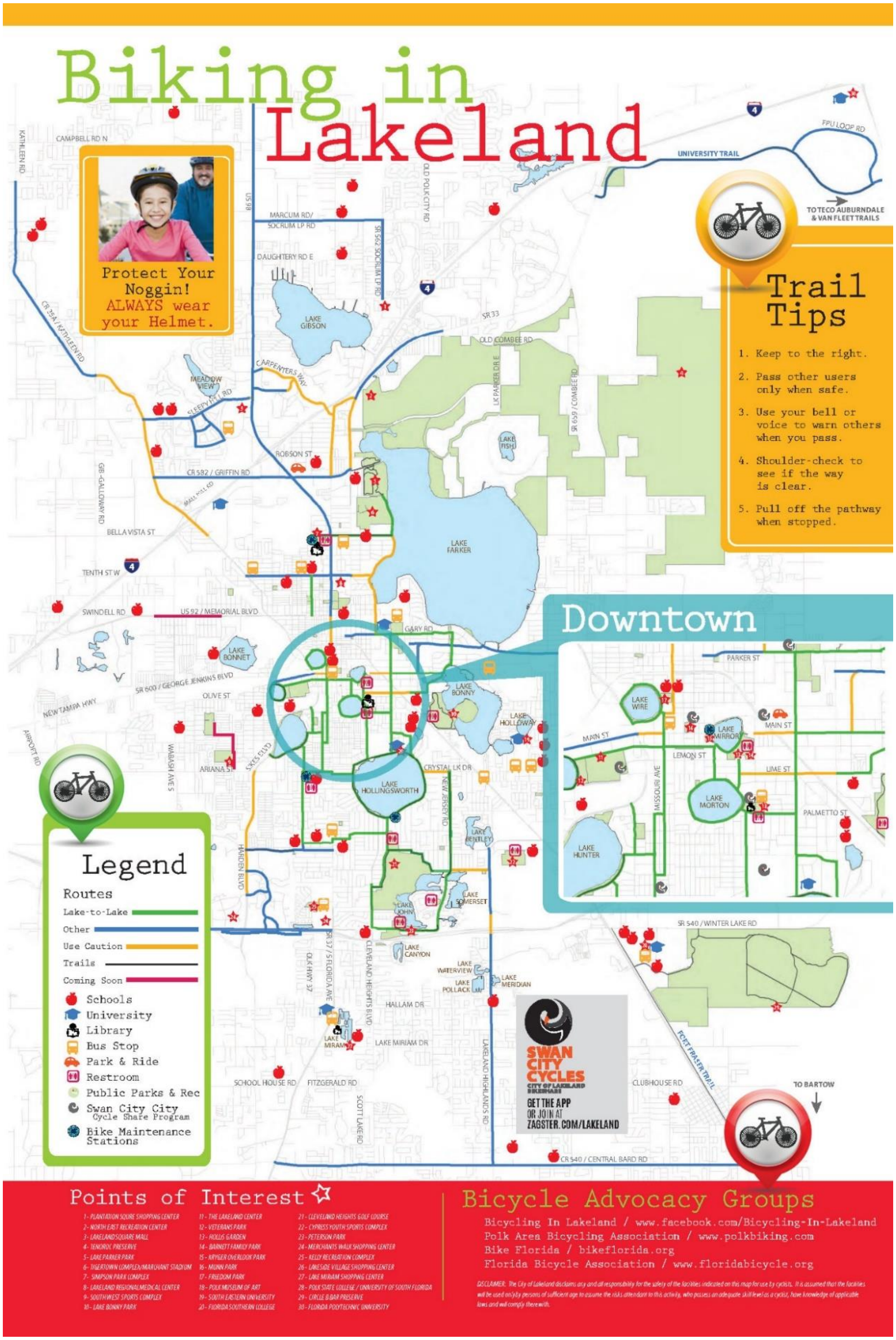
Multimodal opportunities within the project area include local bike trails including the Lake-to-Lake Greenway Connector, the Ft. Fraser Trail, University Trail, Van Fleet State Trail, and West Edgewood Drive Trail. **Figure 2-3** on the following page displays the bicycle facilities in the Lakeland area.



Source: Virgin Trains USA Presentation, 2019.

Ft. Fraser Trail, 2016. Source: Trail Link, Photo submitted by RTC. https://www.traillink.com/trail-gallery/fort-fraser-trail/

FIGURE 2-3 LAKELAND BIKE TRAILS



.

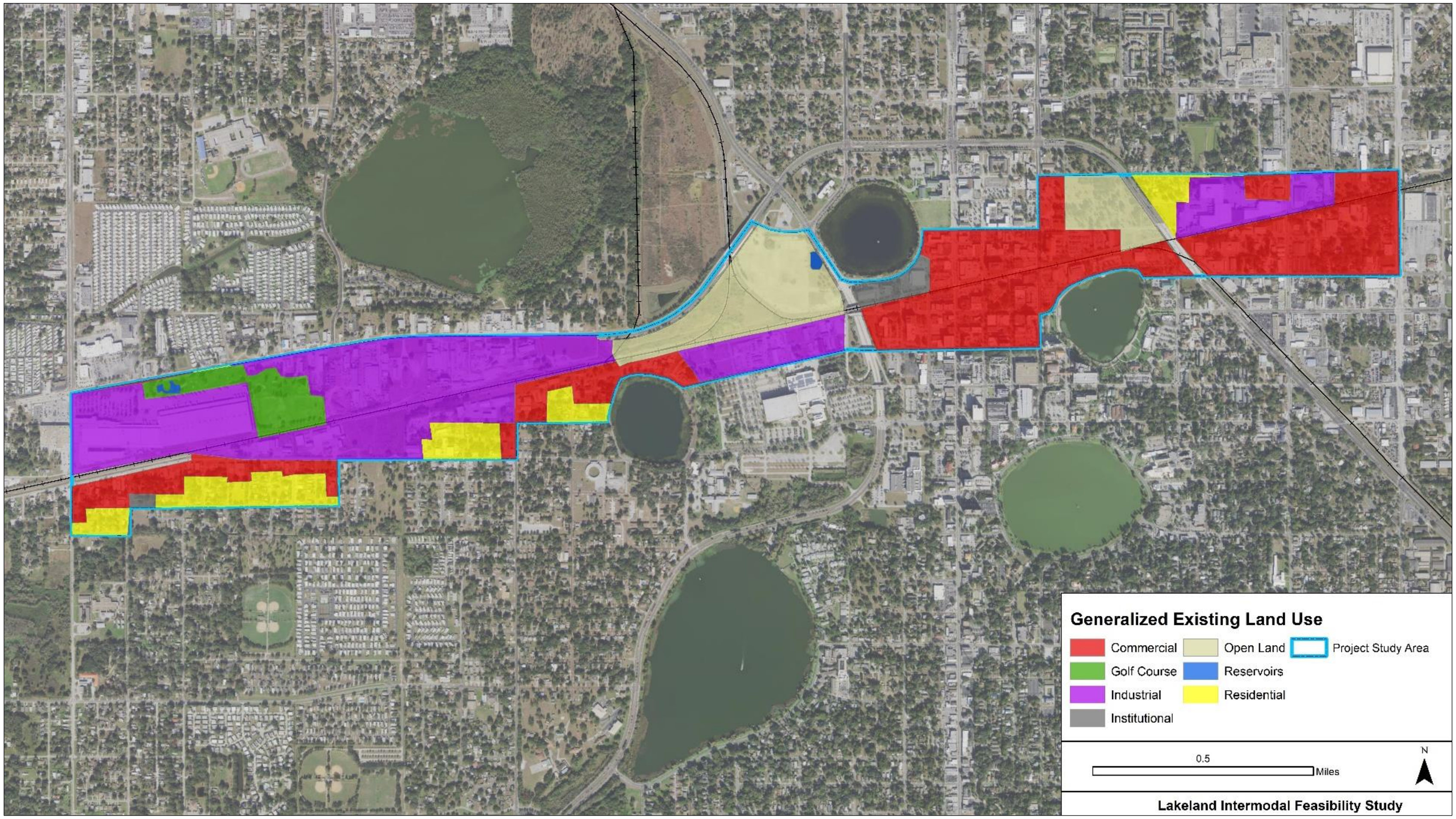
2.4 Existing and Future Land Use

Land use patterns directly impact the transportation system and facilities. Therefore, current and future development patterns were analyzed for the project area and are summarized in this section.

Existing Land Use

The existing land use of the corridor is either classified as Industrial (purple) or Commercial (red).

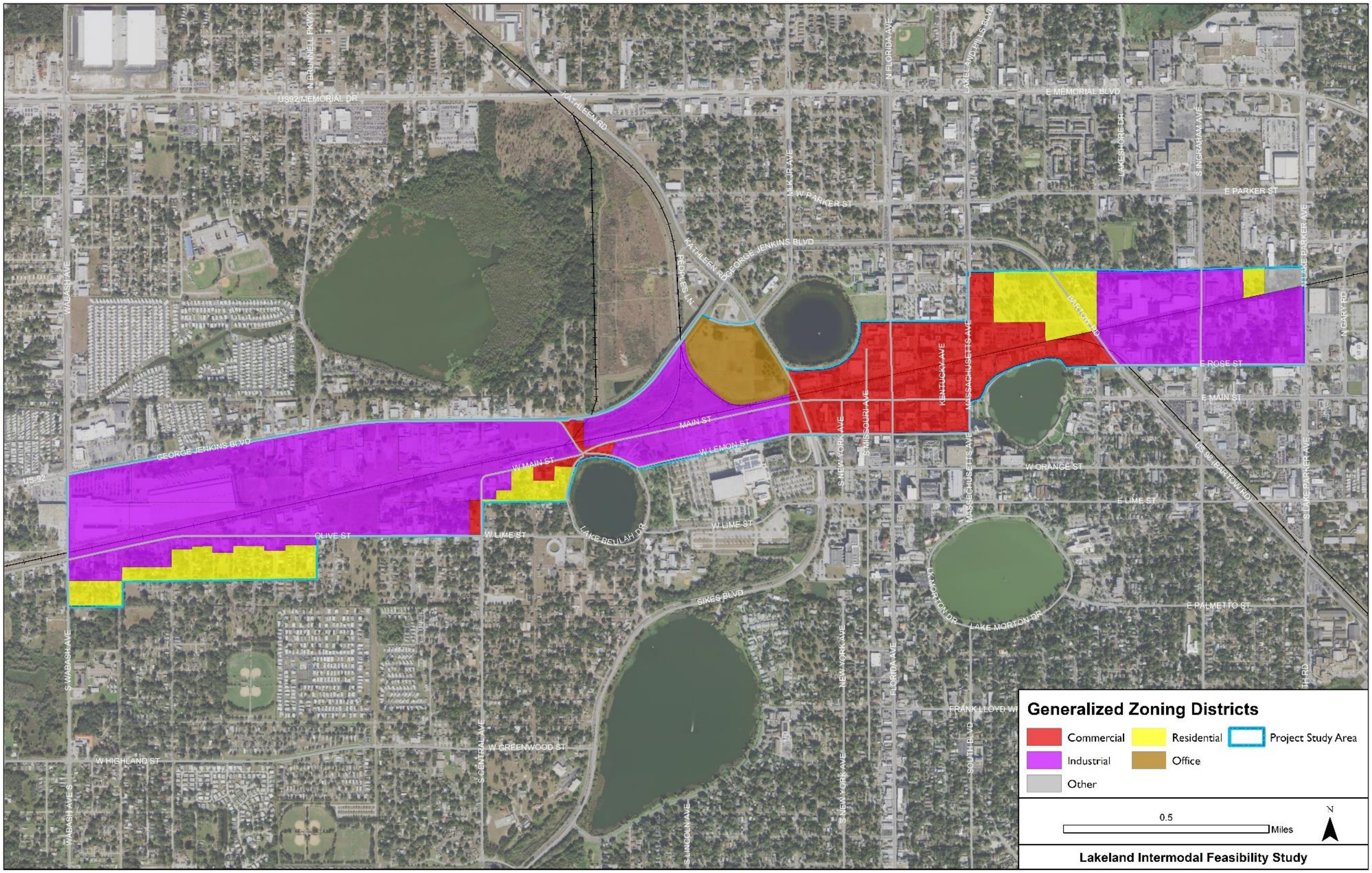
FIGURE 2-4 EXISTING LAND USE



ZONING

The zoning within the corridor is primarily Industrial (purple) and Commercial (red).

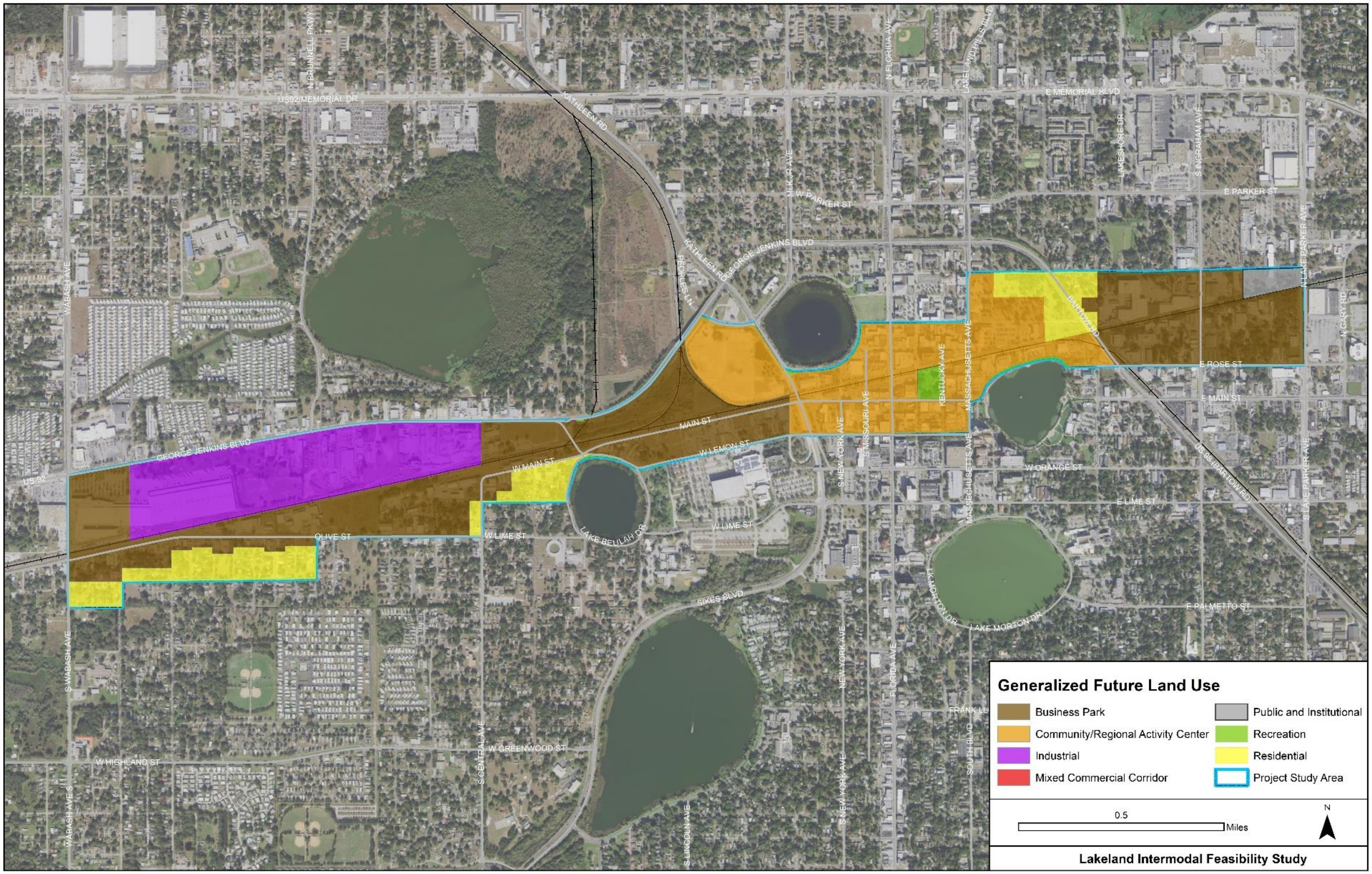
FIGURE 2-5 ZONING



Future Land Use

The future land use within the corridor is generally a mix of Business Park, Community/Regional Activity Center, and Industrial.

FIGURE 2-6 FUTURE LAND USE



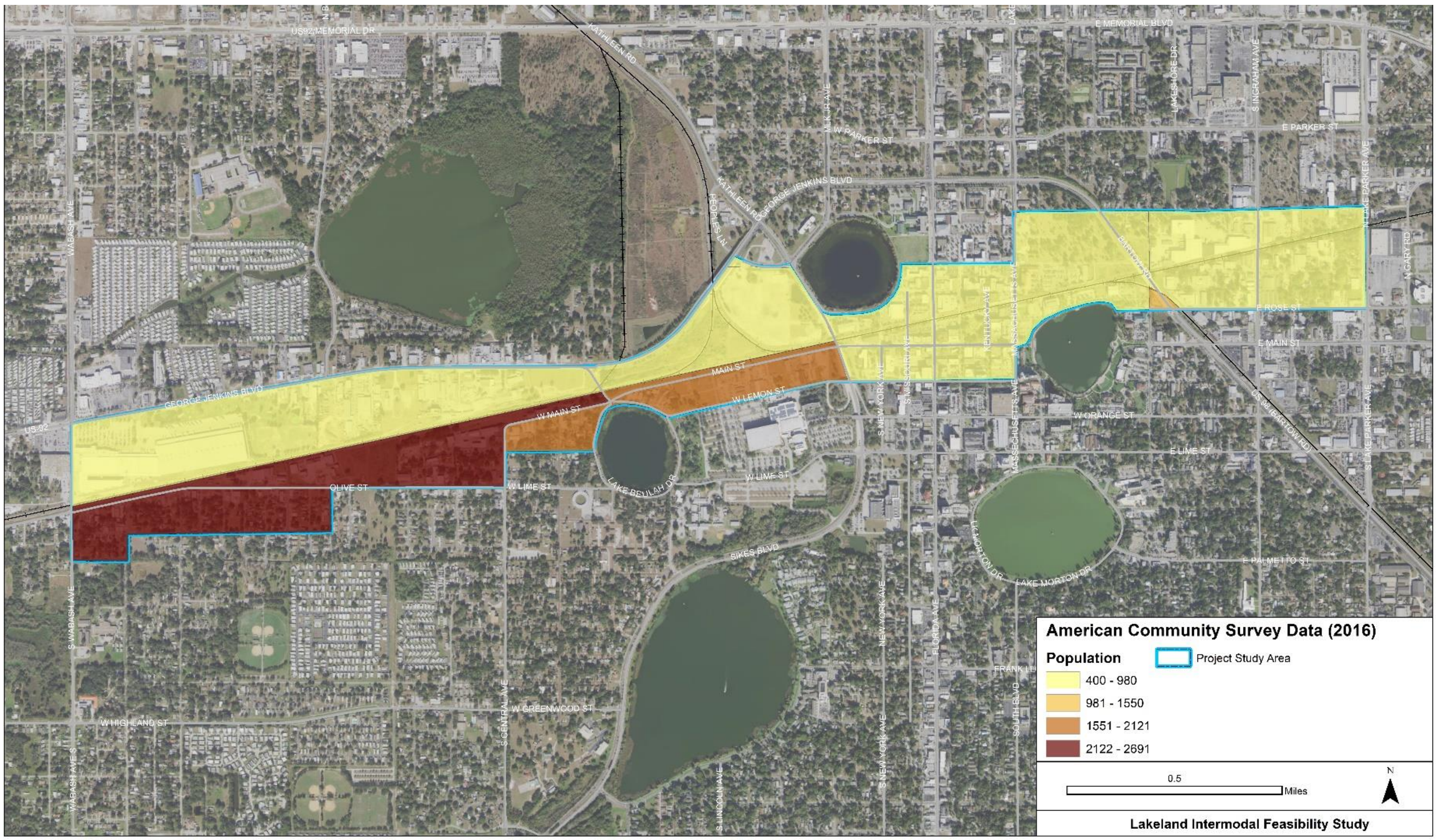
2.5 Demographics

The socioeconomic profile of an area has an influence on the needs and patterns of the transportation system. To characterize the socioeconomic character of the project area, a brief demographics profile presenting general population characteristics was created for the project area using American Community Survey (ACS) data.

General Population

The population within the study area is displayed in **Figure 2-7**.

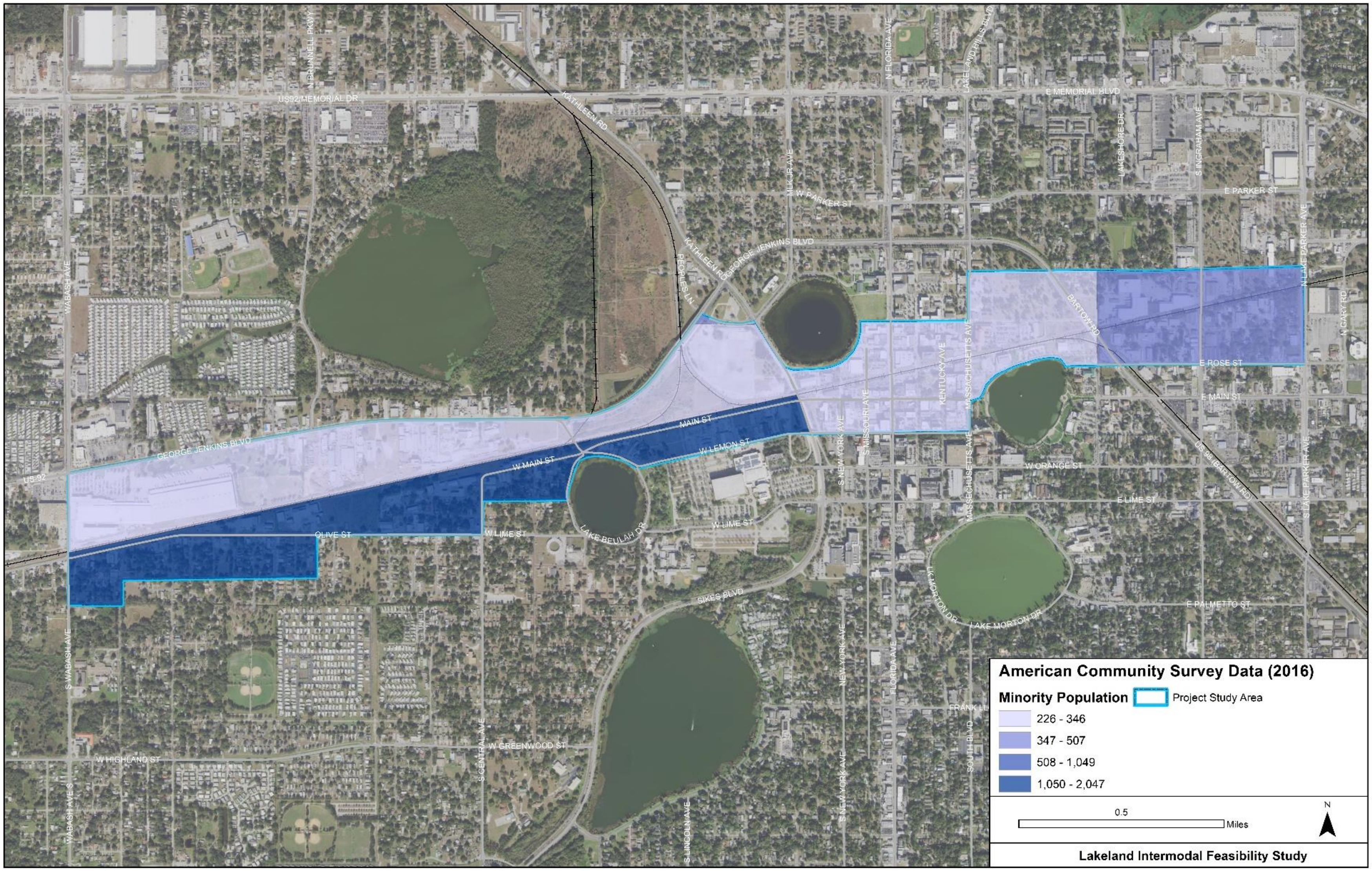
FIGURE 2-7 GENERAL POPULATION



MINORITY POPULATION

The minority population is displayed in **Figure 2-8**.

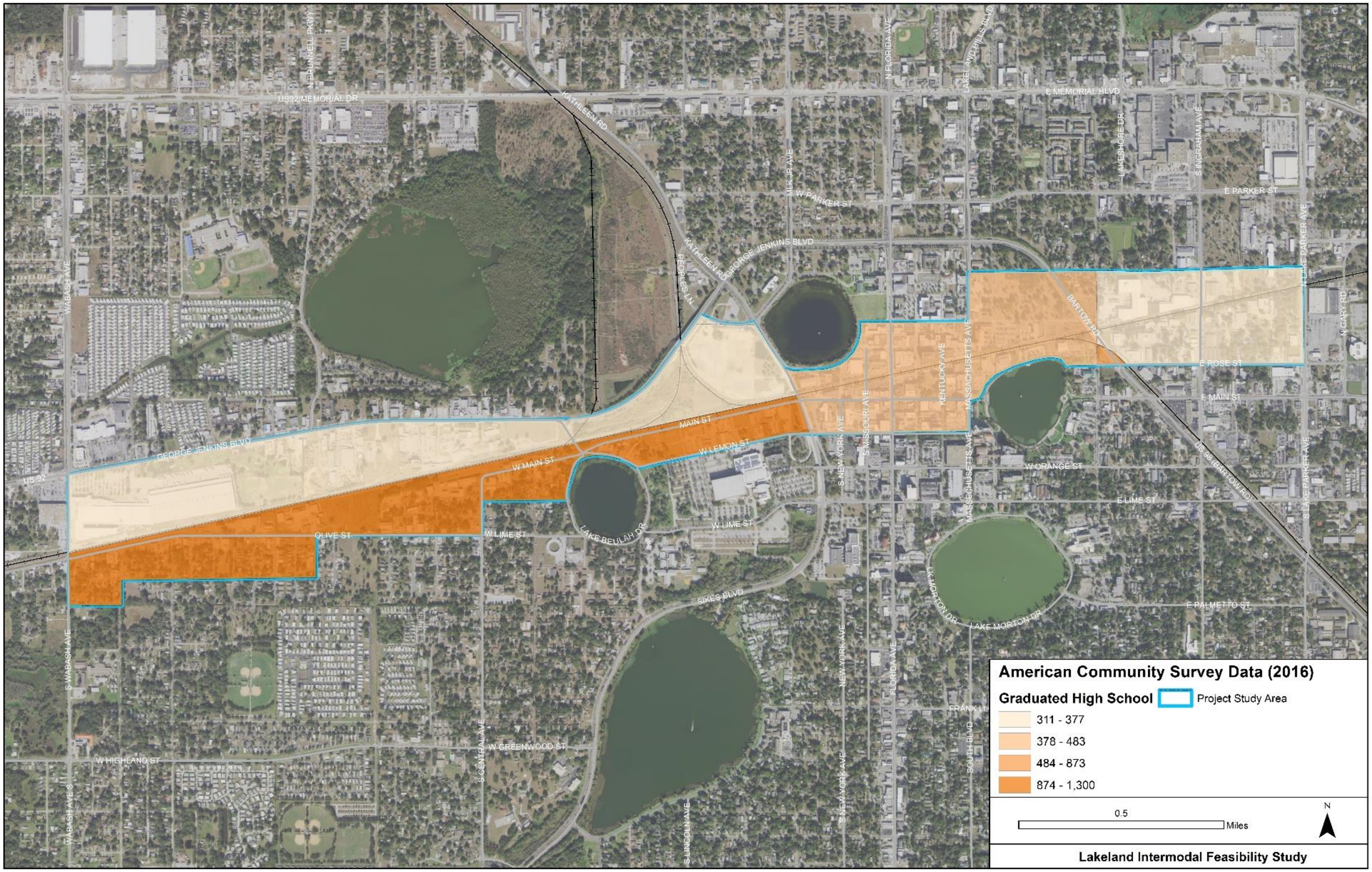
FIGURE 2-8 MINORITY POPULATION



GRADUATED HIGH SCHOOL

The population with a high school education or higher is displayed in **Figure 2-9**.

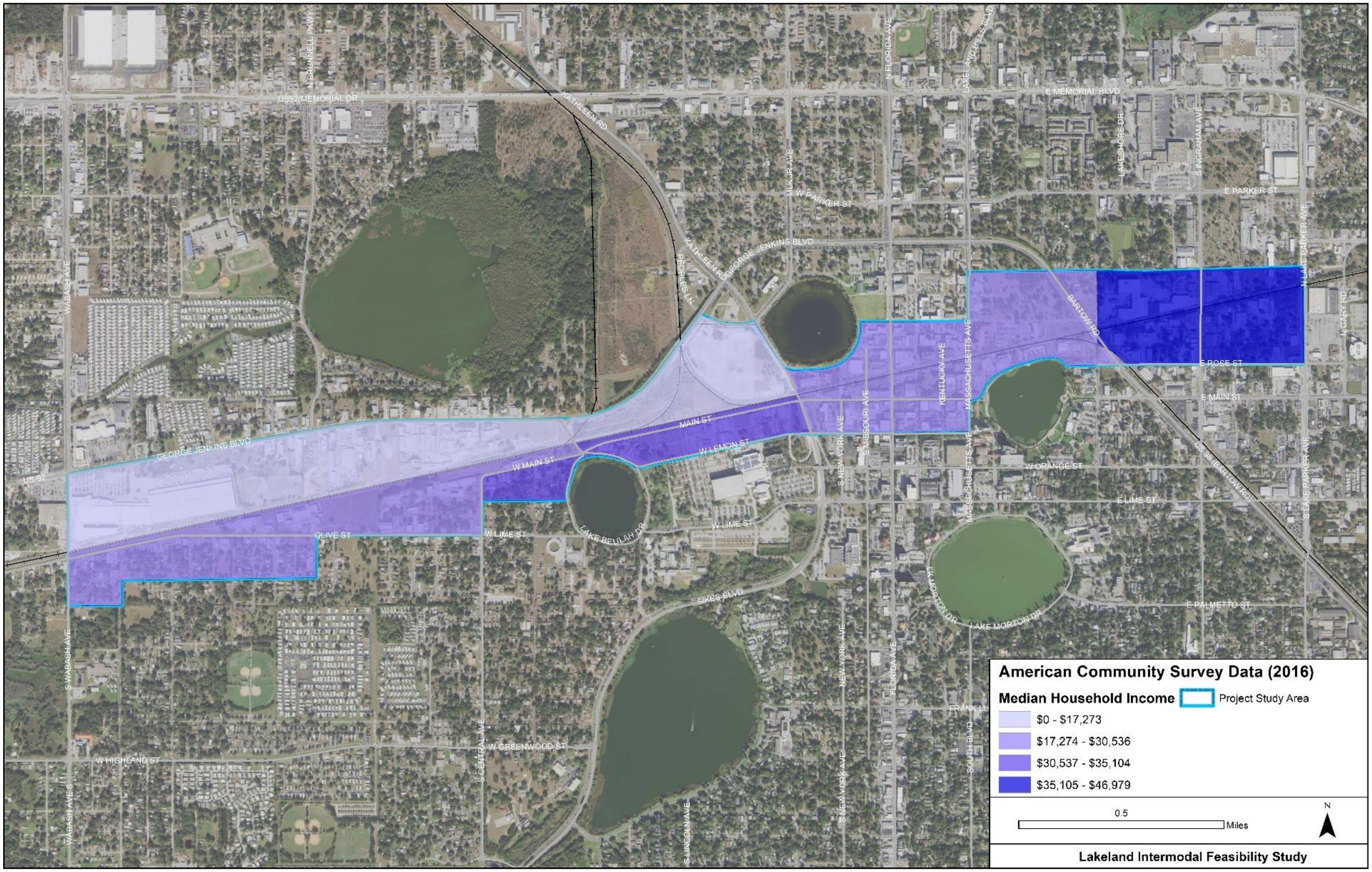
FIGURE 2-9 GRADUATED HIGH SCHOOL



Median Household Income

The median household income within the study area is displayed in **Figure 2-10**.

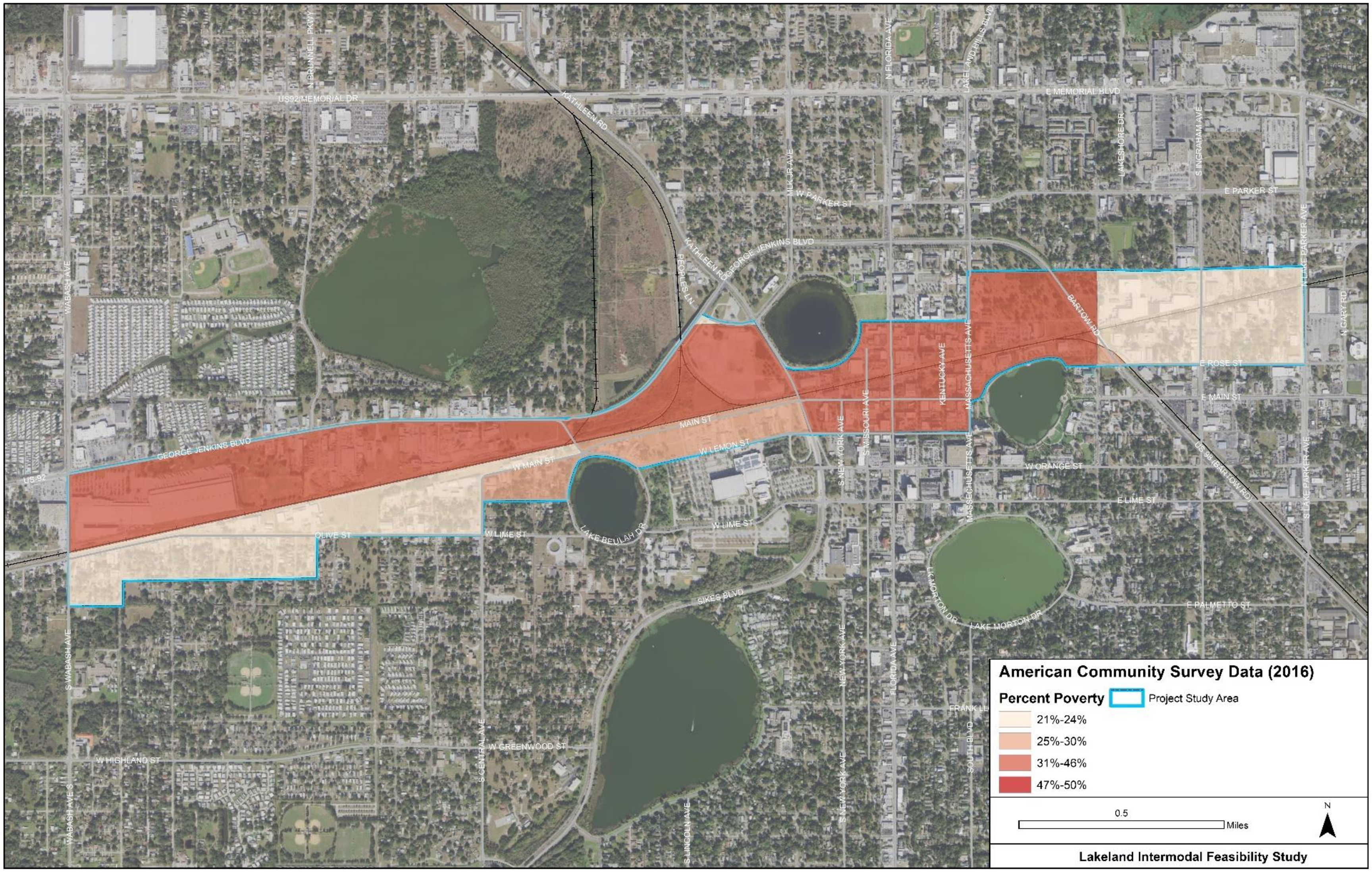
FIGURE 2-10 MEDIAN HOUSEHOLD INCOME



Poverty

The poverty population within the study area is displayed in **Figure 2-11**.

FIGURE 2-11 POVERTY



3.0 Project Purpose and Need

The Purpose and Need statement sets the stage for the consideration of alternatives. The adoption of a Purpose and Need statement is intended to clarify the expected outcome of public expenditures as well as justify the expenditure. It defines what you are trying to accomplish and why you think it is necessary.

3.1 PAC Meeting #2

The Purpose and Need statements were discussed with the PAC during Meeting #2, held on March 26, 2019.

3.2 Purpose Statement

The Purpose statement defines the transportation problem to be solved and outlines the goals and objectives that should be included as part of a successful solution to the problem. The Purpose statement is as follows:

The purpose of the proposed Lakeland Intermodal Center is to provide a multimodal hub serving local bus (Citrus Connection), intercity bus (Greyhound, MegaBus), intercity rail (Amtrak), and future modal options such as a downtown circulator trolley, Brightline, SunRail commuter rail extensions or possible bus-based precursor routes, and planned Bus Rapid Transit (BRT) lines. This hub would service travel oriented to and from particular service providers as well as facilitate connectivity between all modes of travel. In addition, facility planning would incorporate and integrate all modes of access including intercity bus services, bicycle, pedestrian, carpooling, ridesharing, taxis and transportation network companies (Uber, Lyft), vehicle sharing, bicycle sharing, scooters if and when approved locally, and golf carts. In effect, it would serve as a "mobility center" for the region.

3.3 Need Statement

The Need statement provides data to support the problem statement (purpose). The Need Statement is as follows:

- Presently no consolidated location with multiple travel modes for persons not traveling by automobile
- Functionally obsolete Downtown Terminal site operated by the Citrus Connection
    - No on-site parking
    - Physically constrained
    - Safety concerns related to access to the existing Downtown Terminal
    - Pedestrians traveling from the south have to cross the CSX railroad tracks
    - Pedestrians often cross at non-designated locations without grade crossing signals on North Missouri and North Florida Avenues, creating dangerous conflicts with trains
    - Separate Amtrak facility, constructed over 20 years ago
    - Potential for a "one-stop shop" for all things transportation

3.4 Facility Requirements

As a result of the first two PAC meetings and through the direction of the Purpose and Need statement, the following facility requirements were identified:

TABLE 3 FACILITY REQUIREMENTS

Facility Requirements	Area Needed	Comments
Intercity Rail Accommodation ♦ Minimum 1,200' of clear space to accommodate Amtrak train ♦ 800'-900' platform	1,200 linear feet	Accommodates regional transit
Parking ♦ Accommodate up to 150 spaces (20 ST, 100 LT, and remainder for admin/reserved) ♦ Ability for future expansion	50,000 square feet	Supports short- and long-term parking on-site
Transportation Center ♦ Accommodate up to 160 average hourly riders (midday peak) ♦ Lounge area with café ♦ Transportation center (admin, security, maintenance, bathrooms, meeting room, etc.)	12,000 square feet	Building hub
Bus Services ♦ Accommodate 14 buses simultaneously ♦ Greyhound, Megabus, and others	44,000 square feet	Space for up to 16 buses at any one time
Multimodal Accommodations ♦ Drop-off area ♦ Storage for Uber, LYFT, and taxis (dedicated parking or queue lanes) ♦ Bicycle access and storage ♦ Pedestrian access	25,000 square feet	Include pedestrian and bicycle facilities on-site, as well as connect/promote connections off-site
Access ♦ Accessible by all modes of travel (car, bus, train, bicycle and walking)	-	Separate access for bus and the general public.
Architecture ♦ Consistent with the downtown Lakeland aesthetic	-	Maintain local feel

The PAC had discussions about the intercity rail accommodation, and the potential extension of SunRail and/or Brightline/Virgin Trains service to the area. While it is thought that SunRail would utilize the current CSX tracks, the Brightline service is expected to be along Interstate 4. The PAC felt that ridership for the potential Brightline service could be higher than Amtrak, and that the study should consider sites along Interstate 4, in addition to the downtown area. Suggestions at first centered around the US 98 area as well as the Polk Parkway/Florida Polytechnic area, but eventually settled on focusing on the US 98 interchange area. The five sites identified for the Preliminary (Tier 1) analysis are detailed in the next section.

4.0 Preliminary Site Screening

A two-tier screening process was implemented addresses measures such as effectiveness, impacts, cost effectiveness, financial feasibility, equity, transit-supportive land use, and operating efficiencies. Using the study goals and criteria established as part of the Purpose and Need Statement, the PMT and PAC identified criteria and measures to be used to assess how each site location alternative addresses the project's needs.

The Preliminary Tier I Site Screening was an evaluation method for the five potential site locations. The goal of this screening was to evaluate each site and identify two sites to move forward into more detailed study and further screening. The evaluation method consisted of an evaluation matrix with ten Evaluation Measures to appraise each of the five sites. The public had the opportunity to prioritize the Evaluation Measures at the community meetings. The final tallies for each site were adjusted with a public weight to reflect input from the community meeting.

The linked image cannot be displayed. The file may have been moved, renamed, or deleted. Verify that the link points to the correct file and location.

Potential site location near RP Funding Center. Source: Atkins.

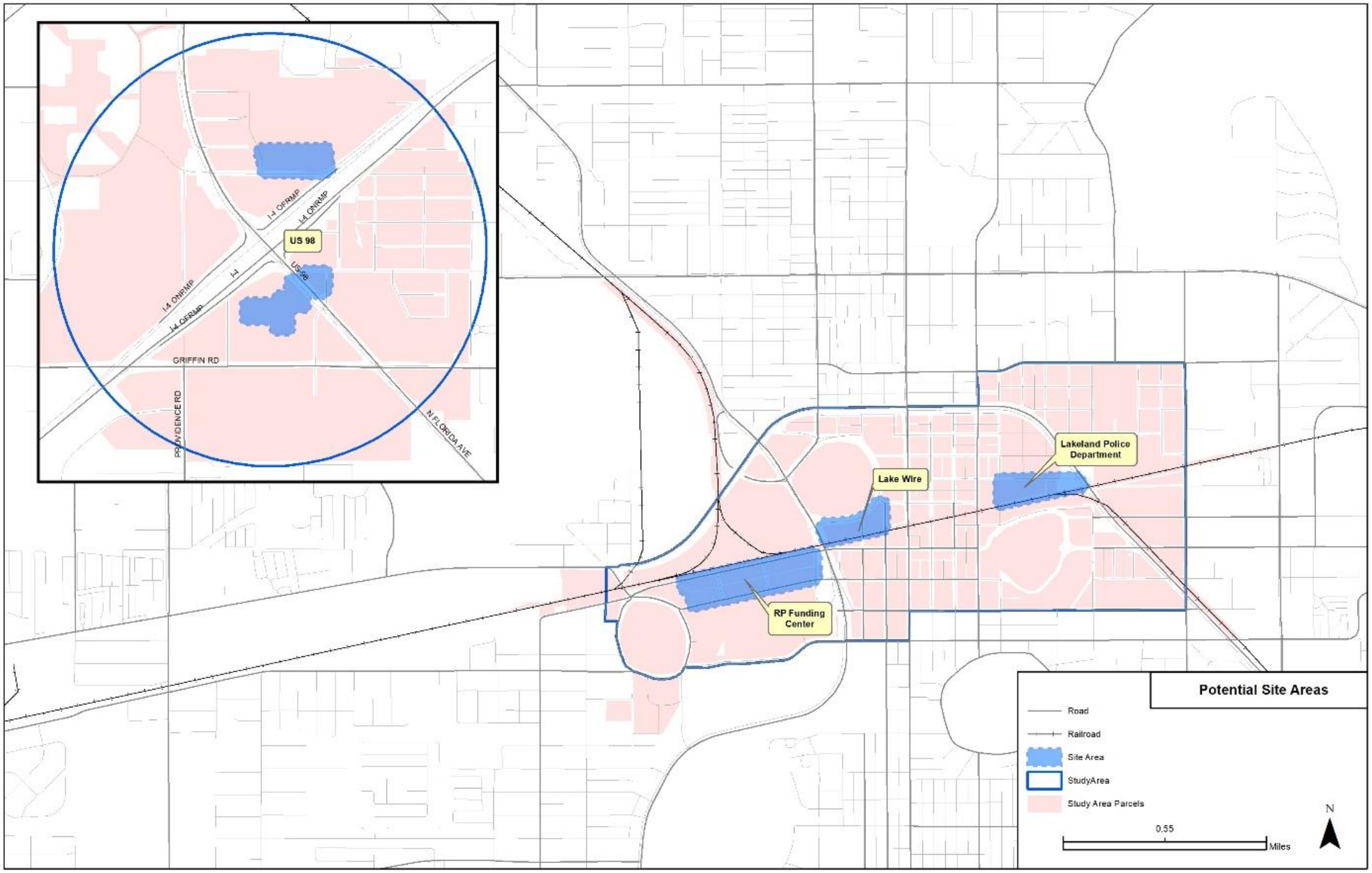
The linked image cannot be displayed. The file may have been moved, renamed, or deleted. Verify that the link points to the correct file and location.

Existing Amtrak Station. Source: Atkins.

4.1 Tier 1 Sites

Five sites identified to be included in the preliminary site screening: Lakeland Police Department, Lake Wire, RP Funding Center, US 98 North, and US 98 South. These are referred to as the Tier 1 sites. Three of the sites were located within downtown Lakeland. The remaining two sites were located in the vicinity of US 98 and I-4. **Figure 4-1** displays the general site locations.

FIGURE 4-1 TIER 1 SITE LOCATIONS



Lakeland Police Department Site Area

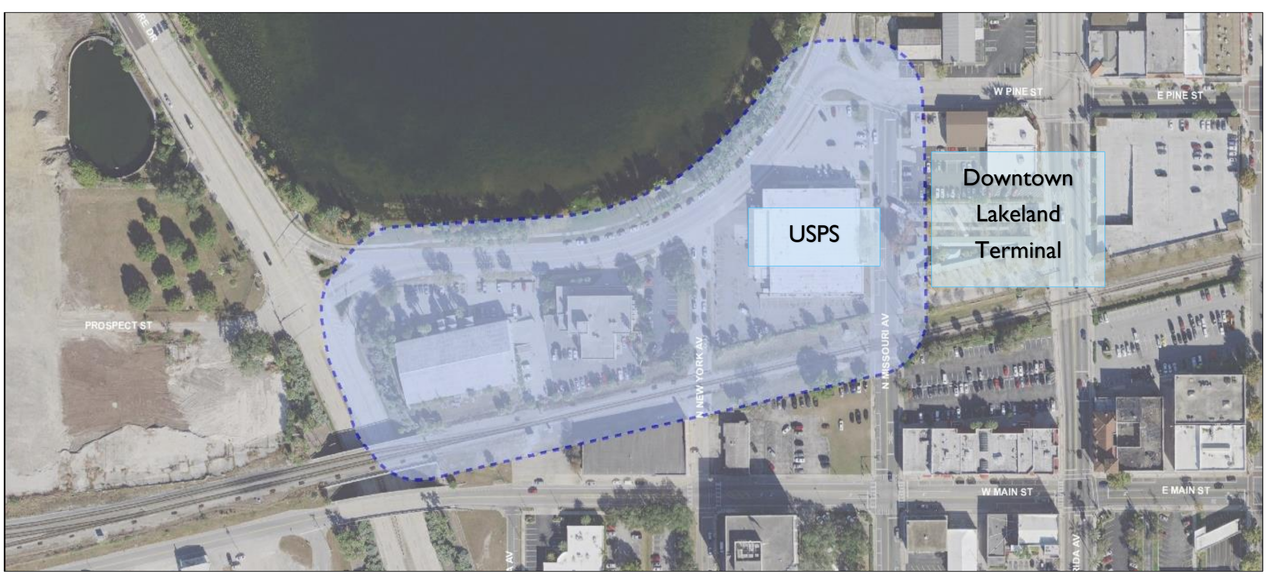
The Lakeland Police Department Site area is located adjacent to the Police Department building and would utilize the existing parking lot and potentially other parcels to the east. Since this site would utilize the existing Police Department parking lot, structured parking may be needed to accommodate parking for the future Intermodal Center and replacement parking for the Police Department.

FIGURE 4-2 LAKELAND POLICE DEPARTMENT SITE AREA

Lake Wire Site Area

The Lake Wire site area is located on Lake Wire Drive between Sikes Boulevard and Missouri Avenue. It is directly adjacent to the CSX tracks. It consists of existing commercial and office uses including the US Postal Service. This site area is bisected by New York Avenue; however, the road crossing at the railroad has been closed, yielding the necessary uninterrupted track length.

FIGURE 4-3 LAKE WIRE SITE AREA



RP Funding Center Site Area

The RP Funding Center site area is located between Main Street and Lemon Street directly north of the RP Funding Center. It consists of vacant and industrial use parcels, several of which are in public ownership. While it is adjacent to the CSX tracks, it is separated from them by Main Street.

FIGURE 4-4 RP FUNDING CENTER SITE AREA

US 98 at I-4 North Site Area

The US 98 at I-4 North site area is located on a vacant outparcel of the Lakeland Park Center shopping mall on Lakeland Park Center Drive approximately 700 feet east of US 98.

FIGURE 4-5 US 98 AT I-4 NORTH SITE AREA

US 98 AT I-4 SOUTH SITE AREA

The US 98 at I-4 South site area consists of parcels located on both sides of US 98. The parcels on the west side of US 98 consist of commercial and a drainage pond. Mitigation for this drainage pond would be considered during the screening process. The parcel on the east side of US 98 is currently used as the Gow B. Fields Park and Ride Lot. This site area is located approximately 500 feet south of I-4.

FIGURE 4-6 US 98 AT I-4 SOUTH SITE AREA

4.2 Screening Criteria

The Tier I Screening Evaluation consisted of the development of ten Evaluation Measures. Each of the five sites were graded on a scale of one to four by the consultant team. Additionally, the Evaluation Measures were voted on at the first public meeting. The public also voted on the individual sites. To determine the final score for each measure, a public weight of 20% was assigned to each of the sites based on the results of the public preference ranking at the community meeting.

The results of the Tier I Screening Evaluation are summarized in this section. A visualization of the Tier I Screening is displayed in **Table 4**.

Evaluation Measures

The Evaluation Measures developed were:

- **Connectivity with other modes:** Ease of providing maximized connections with local, regional, and intercity transit services.
- **Regional accessibility (vehicular):** Access to/from potential site and regional roadway and highway network, including potential for on-site parking.
- **Local accessibility (bike/ped):** Access to/from potential site and local destinations via walking, bicycling, & other short-distance travel methods.
- **Ability to create sense of place:** Opportunity to develop a design that complements the City of Lakeland aesthetic and encourages people gathering.
- **Site design constraints:** Size, configuration, and or regulations of potential site that limit design options.
- **Transit-supportive land uses:** Intensity of existing transit-supportive uses within proximate distance of potential site.
- **Economic development potential:** Visibility of potential site and extent of design considerations needed to ensure secure operations.
- **Safety and security:** Visibility of potential site and extent of design considerations needed to ensure secure operations.
- **Right-of-way (ROW) acquisition/relocations:** Potential need to acquire right-of-way for station development and/or relocate existing uses.
- **Potential construction costs:** Prospective site costs, including need for structured parking, station components, and vertical elements.

4.3 Public Input

The Tier I sites along with the Evaluation Measures were presented to the public at the first public meeting held on May 23, 2019. 40 people signed in at the public meeting. 32 were citizens, and 8 were consultants. Participating members had the opportunity to vote on the Evaluation Measures and for their preferred site location.

In addition to voting on the Evaluation Measures and site locations, 16 comments were received. The comments are included in the appendix.

Evaluation Measures

The Evaluation Measures that received the most votes from the public were: *Connectivity with other modes* (19 Votes), *Local accessibility (bike/ped)* with 17 votes, and *Economic development potential* (16 votes). The Evaluation Measures with the fewest votes from the public were: *ROW acquisition* (0 votes), *Site design constraints* (2 votes), and *Safety and security* (3 votes). The public preference was considered when the measures were weighted by the project team.

Preferred Site Locations

The site location which received the most votes was the *RP Funding Center* site with 17 votes. The *Lakeland Police Department* and *Lake Wire* sites came in close second and third with 14 and 13 votes, respectively. The US 98 sites scored the lowest with 8 votes for the south location and 9 votes for the north location.

4.4 PAC Meeting #3

The third PAC meeting was held on June 13, 2019. The PAC members voted on their preferred locations and received a recap of the May 23rd public meeting.

4.5 Evaluation Results

Each site location alternative was scored based on the Evaluation Measures. Then, a weight was applied for each measure based, in part, on the results from the public voting. Finally, the public scores for each site location was applied to yield to final scoring for each site.

Initially, Site 1 (Lakeland Police Department) and Site 3 (RP Funding Center) scored highest identically at 65. However, once the public vote score was included, Site 3 came out on top with a final score of 82 over Site 1's 79.

The two lowest scores after the initial screening were Sites 4 (US 98 at I-4 north) and 5 (US 98 at I-4 south) with a score of 37. After the public score was applied, Site 5 scored slightly lower than Site 4 with scores of 45 and 46, respectively.

Site 2 (Lake Wire) remained in the middle of the group with an initial score of 54 and final score of 67.

TABLE 4 TIER 1 SCREENING

Lakeland Intermodal Center – Screening Criteria		Site 1 Lakeland Police Dept	Site 2 Lake Wire Site	Site 3 RP Funding Center	Site 4 US 98 @ I-4 North	Site 5 US 98 @ I-4 South
Criteria	Description	Score				
Evaluation Measure 1: Connectivity w/ other modes	Ease of providing maximized connections with local, regional, and intercity transit services	3	3	3	1	2
Evaluation Measure 2: Regional accessibility (vehic.)	Access to/from potential site and regional roadway and highway network, including potential for on-site parking	2	3	3	2	3
Evaluation Measure 3: Local accessibility (bike/ped)	Access to/from potential site and local destinations via walking, bicycling, & other short-distance travel methods	4	4	3	1	1
Evaluation Measure 4: Ability to create sense of place	Opportunity to develop a design that complements City aesthetic and encourages people gathering	4	4	3	1	2
Evaluation Measure 5: Site design constraints	Size, configuration, and or regulations of potential site that limit design options	3	2	4	3	1
Evaluation Measure 6: Transit-supportive land uses	Intensity of existing transit-supportive uses within proximate distance of potential site	4	4	3	2	2
Evaluation Measure 7: Economic Development Potential	Opportunity to maximize return-on-investment through additional nearby private development	3	3	4	1	2
Evaluation Measure 8: Safety & Security	Visibility of potential site and extent of design considerations needed to ensure secure operations	3	3	3	2	2
Evaluation Measure 9: ROW acquisition / relocations	Potential need to acquire right-of-way for station development and/or relocate existing uses	4	1	3	2	2

Lakeland Intermodal Center – Screening Criteria (cont'd)		**Site 1 Lakeland Police Dept**	**Site 2 Lake Wire Site**	**Site 3 RP Funding Center**	**Site 4 US 98 @ I-4 North**	**Site 5 US 98 @ I-4 South**
Evaluation Measure 10: Potential Construction Costs	Prospective site costs, including need for structured parking, station components, and vertical elements	3	1	3	3	2
Score		**65**	**54**	**65**	**37**	**37**
Public Score		14	13	17	9	8
Total Score		**79**	**67**	**82**	**46**	**45**

Legend

Symbol	*Meaning*	*Points*	*Weighting*	*Definition*
1	Least Desirable	1	3	Primary consideration
2		2	2	Secondary consideration
3		3	1	Tertiary consideration
4	Most Desirable	4		

5.0 Refined Site Screening

As a result of the Tier 1 Screening, the identified site alternatives were narrowed from five potential locations to two: Lakeland Police Department (PD) (Downtown East Site) and RP Funding Center (Downtown West Site). These two site locations were moved forward into the refined site screening process. The refined Tier 2 site screening process included refining the location, developing concept designs for each site, estimating generalized costs, and conducting a desktop environmental analysis.

5.1 Refined Site Locations and Analysis

Both site locations are located in Downtown Lakeland, approximately 1,800 feet in either direction from the current Lakeland Downtown Terminal. The RP Funding Site is located to the west of the existing terminal and the Lakeland PD Site is located to the east of the existing terminal. The analysis for the two sites included: an identification of existing surrounding buildings; analysis of site elements including site contours, figure-ground, views and noise, sun path, access to site, and bus routes and stations; and potential placement of site elements including parking, the transportation center, multimodal accommodations, and Amtrak accommodations; and 3-D renderings representing potential building scaling with the surrounding area.

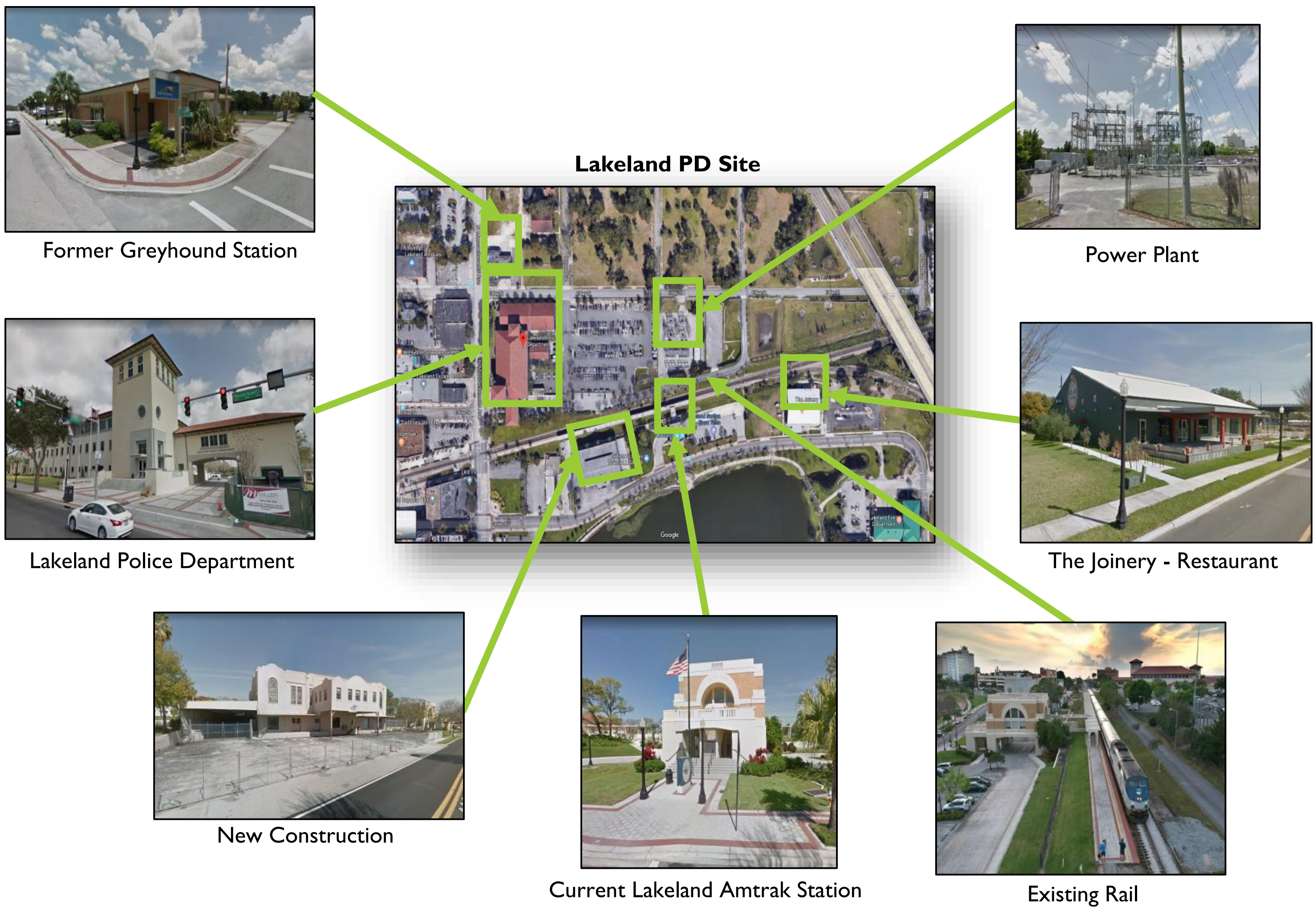
The results of this analysis are summarized in this section. Further details and figures are included in the appendix.

FIGURE 5-1 TIER 2 SITE LOCATIONS

Lakeland Police Department (Downtown East) Site Surrounding Buildings

The Lakeland Police Department (PD) Site is surrounded by the existing buildings displayed in **Figure 5-2**.

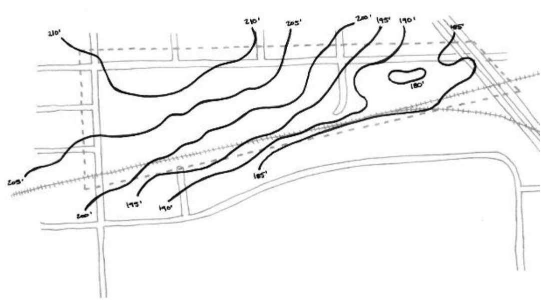
FIGURE 5-2 LAKELAND PD SURROUNDING BUILDINGS



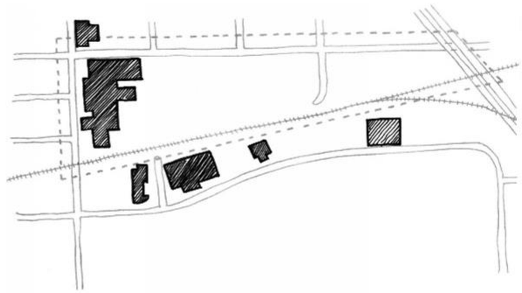
Lakeland PD (Downtown East) Site Analysis

The site analysis for the Lakeland PD Site is displayed in **Figure 5-3**.

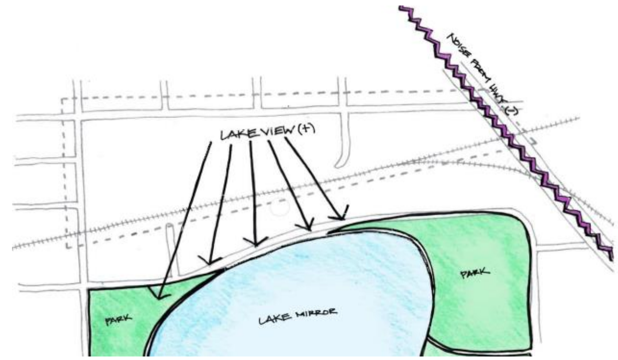
FIGURE 5-3 LAKELAND PD SITE ANALYSIS



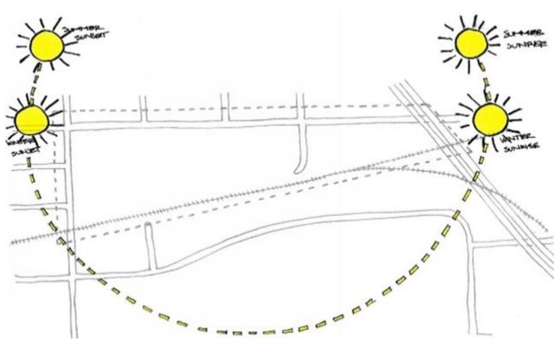
1. SITE CONTOURS



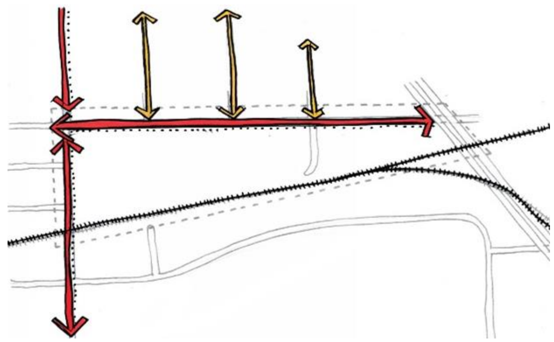
2. FIGURE-GROUND



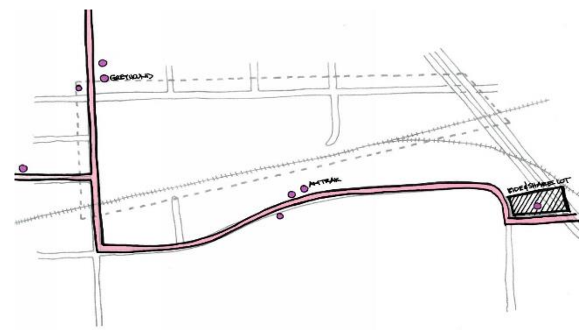
3. VIEWS & NOISE



4. SUN PATH



5. ACCESS TO SITE

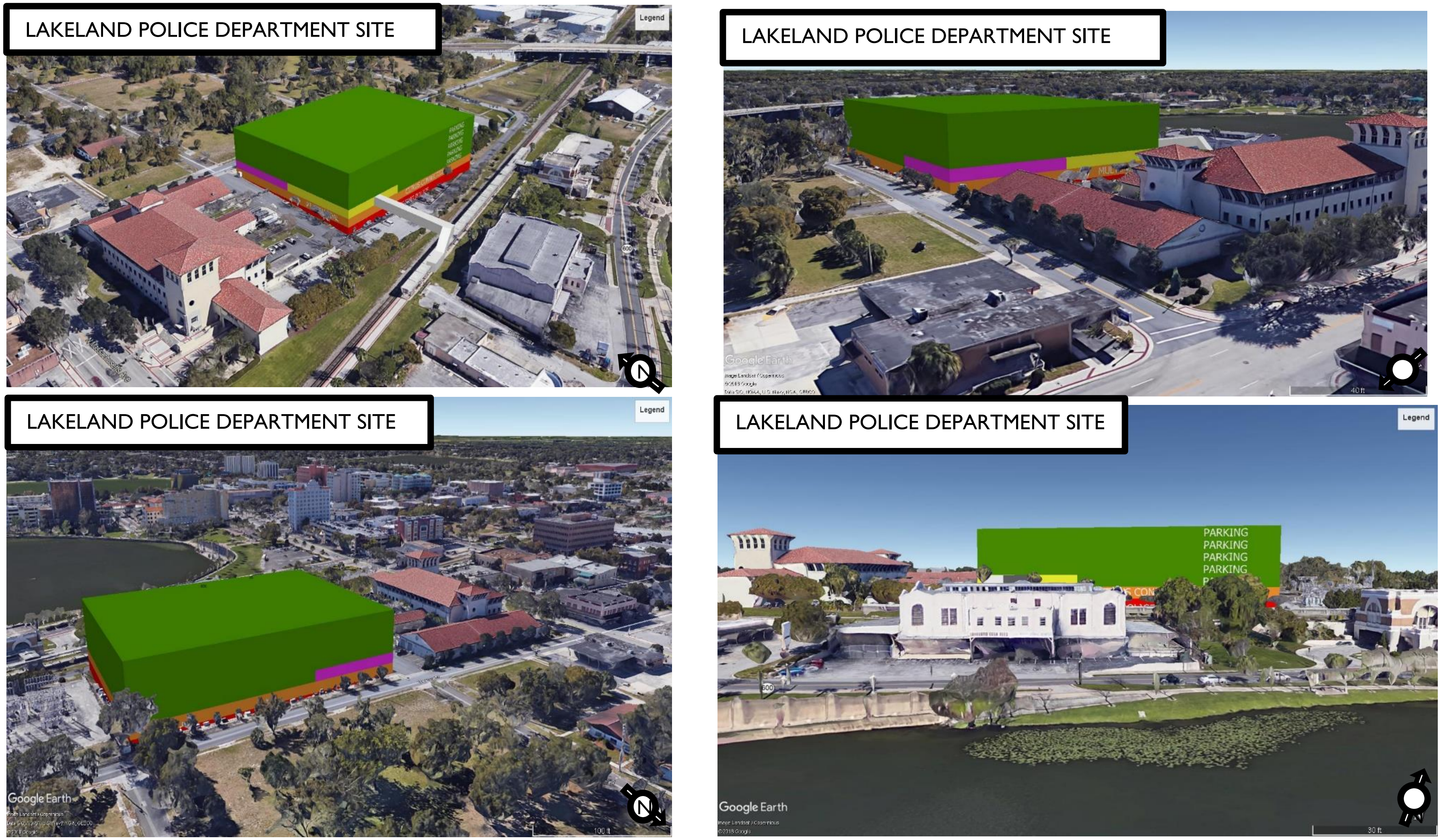


6. BUS ROUTE & STATIONS

Lakeland PD (Downtown East) Building Scaling

3-D massings of potential buildings were created as representations of how the intermodal center would fit with the surrounding area in terms of size.

FIGURE 5-4 LAKELAND PD BUILDING SCALING



RP Funding (Downtown West) Site Surrounding Buildings

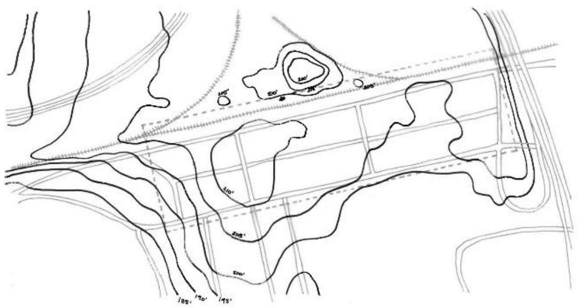
The RP Funding Site is surrounded by the existing buildings displayed in **Figure 5-5**.

FIGURE 5-5 RP FUNDING SITE SURROUNDING BUILDINGS

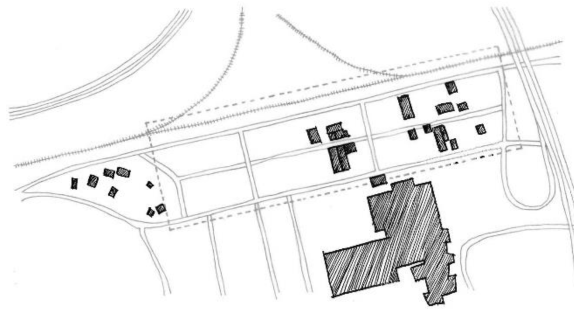
RP Funding (Downtown West) Site Analysis

The site analysis for the RP Funding Site is displayed in **Figure 5-6.**

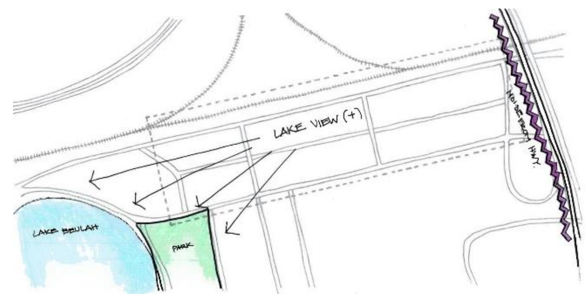
FIGURE 5-6 RP FUNDING SITE ANALYSIS



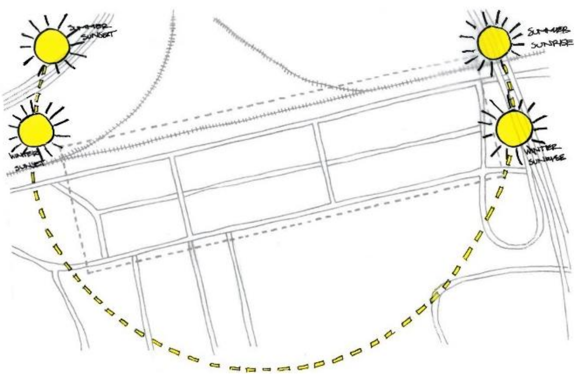
1. SITE CONTOURS



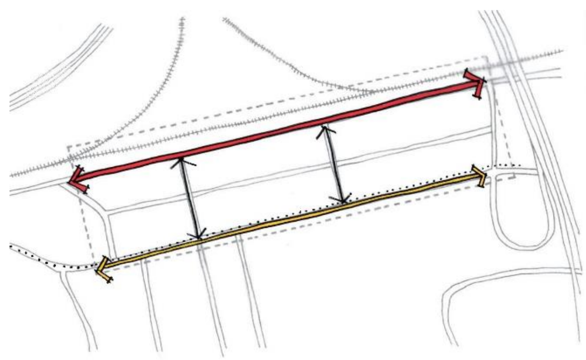
2. FIGURE-GROUND



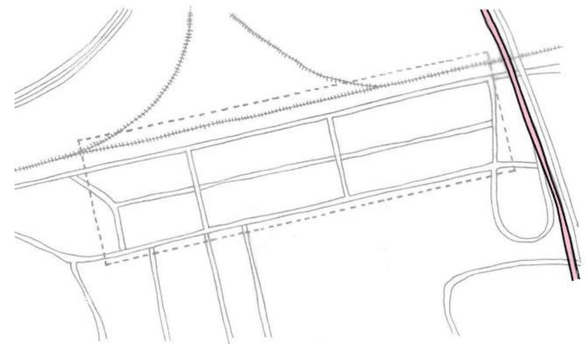
3. VIEWS & NOISE



4. SUN PATH



5. SITE ACCESS

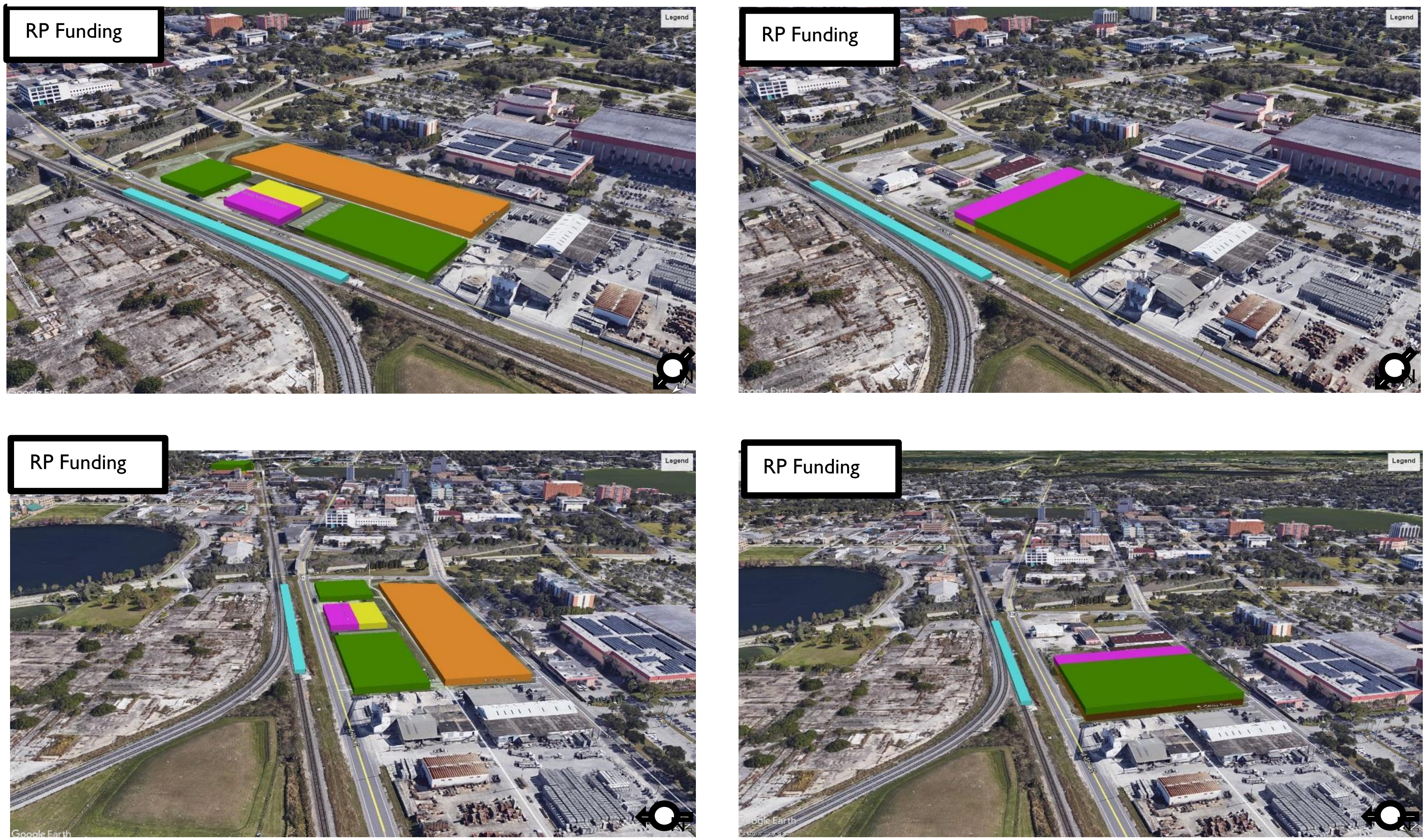


6. BUS ROUTE & STATIONS

RP Funding (Downtown West) Site Building Scaling

3-D massings of potential buildings were created as representations of how the intermodal center will fit with the surrounding area in terms of size.

FIGURE 5-7 RP FUNDING SITE BUILDING SCALING



5.2 Environmental Analysis

An environmental analysis was conducted to provide an overview of natural, physical, and social/economic resources that are within the Tier 2 Lakeland Intermodal Center sites. **Table** provides a summary of the resources evaluated. The affected resources are highlighted in yellow. The full environmental analysis report is available in the appendix.

TABLE 5 ENVIRONMENTAL ANALYSIS SUMMARY

Resource	Lakeland PD (Downtown East) Site Area	RP Funding (Downtown West) Site Area
Natural Resources		
Wetlands (acres)	0	0
Surface Waters (other than wetland) (acres)	0	0
Aquatic Preserves (acres)	0	0
Outstanding Florida Waters (Yes/No issue)	No	No
Water Quality (yes/no issue)	Yes - Dissolved Oxygen & fecal coliform	Yes - Fecal coliform and nutrients (macrophytes)
Wild and Scenic Rivers (count of number)	0	0
Floodplains (acres)	0	0
Coastal Zone Consistency (yes/no issue)	Yes	Yes
Coastal Barrier Resources (yes/no issue)	No	No
Wildlife & Waterfowl Refuges (acres)	No	No
Protected Species and Habitat		
Sank Skink Habitat (acres)	0	0
Choctawhatchee Beach Mouse habitat (acres)	0	0
Snowy Plover Nests (FWC) (count)	0	0
Bald Eagle nests (within 1,500 feet) (count)	0	0
Woodstork Nests (count)	0	0
Piping Plover Locations (count)	0	0
Wilson's Plover Locations (count)	0	0
Gopher Tortoise Relocation Permit Sites (count)	0	0
Species Observation Database (count)	0	0
Wildlife Management Areas (yes/no issue)	No	No
TNC Ecological Resource conservation Areas (yes/no)	No	No
Black Bear Management Unit (yes/no issue)	Yes	Yes
White-Tailed Deer Management Unit (yes/no issue)	Yes	Yes
Strategic Habitat Conservation Areas	No	No
Critical Wildlife Areas	No	No
Essential Fish Habitat (acres)	No	No

Resource	Lakeland PD (Downtown East) Site Area	RP Funding (Downtown West) Site Area
Cultural Resources		
Public Parks/Recreational Areas		
Trails (count of crossings, not individual trails)	0	0
Parks (yes/no issue)	0	0
Archaeological Sites	None	None
Florida Historic Structures	None	(2) - McMullen's Drug Store (PO03995) and 517 Maine St. (PO04002)
National Register Sites	(1) - Munn Park Historic District	None
Resource Groups	None	None
Historic Bridges	None	None
Historic Cemeteries	None	None
American Indian Lands		
Physical		
Noise Sensitive Sites (adjacent parcel) TOTAL	3	1
NAC A	*0*	*0*
NAC B	*0*	*0*
NAC C	*0*	*0*
NAC D	*0*	*0*
NAC E	*3*	*1*
Air Quality (yes/no issue)	No	No
Contamination (Various search distances based on PD&E guidance) (count)		
Dry Cleaners (500 ft. from site)	0	0
Waste Cleanup Sites (open/inactive/closed) (500 ft. from site)	1	0
Septic Tanks (500 ft. from parcel)	2	1
Storage Tank Contamination Monitoring (STCM) (500 ft. from site)	8	2
Petroleum Contamination Tracking Sites (PCTS) (500 ft. from parcel)	3	2
SUPER Act Well (FDOH) (500 ft. form parcel)	0	0
SUPER Act Risk Site (FDOH) (500 ft. form parcel)	3	1
National Pollutant Discharge Elimination System (NPDES) (500 ft. from parcel)	2	2
Biomedical Waste Facilities (500 ft. from parcel)	0	0
Resource Conservation and Recovery Act Sites (500 ft. from parcel)	2	0
State Funded Cleanup Sites (500 ft. from parcel)	0	0

Resource	Lakeland PD (Downtown East) Site Area	RP Funding (Downtown West) Site Area
EPA Toxic Release Inventory (500 ft. from parcel)	0	0
DEP Cleanup sites (500 ft. from parcel)	1	2
Brownfields (1,000 ft. from parcel)	0	2
EPA Assessment Cleanup and Redevelopment Exchange system for Brownfields Grantee Reporting in FL (1,000 ft. from parcel)	1	0
Treaters, Storers & Disposers of Haz. Waste (1,000 ft. from parcel)	0	1
Wastewater Facility (1,000 ft. form parcel)	0	0
Solid Waste Facility (1,000 ft. form parcel)	0	1
Institutional Controls Registry (ICR) (1,000 ft. from parcel)	0	0
Hazardous Waste (CHAZ) Facilities (1,000 ft from parcel)	4	3
Small Quantity Generators (SQG) (1,000 ft. from parcel)	2	2
Large Quantity Generators (LQG) (1,000 ft. from parcel)	0	0
SUPERFUND/NPL Sites (1/2 Mile from parcel)	0	1
Railroads	nearby	nearby
Navigation (Navigable Waterways) (yes/no issue)	No	No
Social and Economic		
PARCELS impacted (does NOT include ROW parcels)	1	3
Farmlands (acres)	0	0
Fire Station (count)	0	0
Law Enforcement Facility	1	0
Hospital/Healthcare facilities	0	0
Libraries	0	0
Schools	0	0
Daycares	0	0
Churches	0	0
Cultural Centers	0	0
Cemeteries	0	0

5.3 Initial Tier 2 Screening Summary

Based on the outcome of the initial Tier 2 Screening, two layout options were developed for each site. **Table** displays the summary of each of the Options developed.

TABLE 6 INITIAL TIER 2 SCREENING SUMMARY

Site Element	Lakeland PD Option A	Lakeland PD Option B	RP Funding Option 1	RP Funding Option 2
Total Bus Bays	13 Pull In/Out	16 Back Out	18 Pull In/Out	20 Pull In/Out
Parking Spaces	Up to 900	Up to 900	150	166
First Floor Sq. Ft	3,000	5,000	20,000	4,000
Total Sq. Ft.	28,000	31,000	20,000	20,000
New Amtrak Station	No	No	Yes	Yes
Potential Nearby Contamination Sites	♦ 24 sites within 500' radius ♦ 7 additional within 1000' radius		♦ 10 sites within 500' radius ♦ 9 additional within 1000' radius ♦ 1 Superfund site within ½ mile	
Historic Resources	No known structures	No known structures	2 potential structures	Potential structures can be avoided
Generalized Costs	$45 million	$45 million	$21 million	$25 million
Other Factors	Secured police parking under	Secured police parking under	Requires at-grade crossing to Amtrak	Part of parcel can be sold for development

5.4 Generalized Cost Comparison

A generalized cost comparison was developed for each of the four options and is displayed in **Table** . The cost for both Downtown East options is estimated to be the same. The cost is significantly higher than the Downtown West options due to the construction of a large parking garage. The Downtown West Option 2 configuration is more expensive than Downtown West Option 1 as it includes structured parking.

TABLE 7 GENERALIZED COST COMPARISON

Site Element	Downtown East Options A and B	Downtown West Option 1	Downtown West Option 2
Bus Terminal	$11 million	$15 million	$13 million
Facilities	$6 million	$4 million	$6 million
Garage	$25 million	-	$4 million
Other*	$3 million	$2 million	$2 million
TOTAL	**$45 million**	**$21 million**	**$25 million**

* Other is a pedestrian bridge for the Lakeland Police Department Options and an Amtrak Platform for the RP Funding Options.

5.5 PAC Meeting #4

PAC Meeting #4 was held on October 1, 2019 in which the initial screening of the refined sites was presented, and potential Tier 2 evaluation criteria were discussed.

5.6 Public Meeting #2

The second public meeting was held on Thursday, November 21, 2019 from 5:30 to 7:30 PM at the Peggy Brown Building in Lakeland, Florida. 19 attendees signed in, consisting of 13 citizens, 2 FDOT representatives, 1 City of Lakeland representative, and 3 consultant staff. At the meeting, information about the project was displayed. Participants contributed their opinions on the project via public comments and voting on their preferred alternatives using an interactive voting board. More information regarding Public Meeting #2 is included in the appendix.

5.7 Tier 2 Evaluation

Similar to the Tier 1 Screening Evaluation, the Tier 2 Screening Evaluation involved a scoring matrix with ten Evaluation Criteria. The criteria were accompanied by Measures with an associated value. Additionally, members of the public voted on their preferred alternative at the community meetings. The public vote was included with the overall scoring of the alternatives. The goal of the Tier 2 Evaluation is to identify a final recommended site to move forward with into refined conceptual design.

Evaluation Criteria

As shown on Table 6, ten evaluation criteria were developed for the Tier 2 Evaluation. The Tier 2 Evaluation is summarized in this section and displayed in **Table 5.** The Evaluation Criteria developed for the Tier 2 Screening were:

- Total Bus Bays
- Bus Bay Configuration
- Automobile Parking Spaces
- First Floor Square Footage
- Total Building Square Footage
- Amtrak Station Relocation
- Environmental Impacts
- Historic Resources Impacts
- Total Cost
- Economic Development Potential

Public Input on Tier 2 Sites

Members of the public voted on their preferred site at the Public Meeting #2. As with the Tier 1 Evaluation, the public ranking comprised 25% of the max technical score.

Evaluation Results

The sites scoring the highest were the Downtown West sites. Downtown West Option B scored highest with an overall score of 22.5; Downtown West Option A scored slightly lower with a score of 21. Downtown West Option A scored higher via public vote (24 votes versus 22 votes), but Downtown West Option B scored higher in Economic Development Potential, Historic Resources Impacts, and Automobile Parking Spaces.

The lowest scoring sites were the Downtown East sites. Downtown East Option A scored the lowest with a score of 11.75. Downtown East Option B scored two points higher with a score of 13.25. The Downtown East sites scored lower than the Downtown West sites in Environmental Impacts, Total Cost, Economic Development Potential, and Total Bus Bays categories.

TABLE 5 TIER 2 SCREENING EVALUATION

Lakeland Intermodal Center Feasibility Study Tier 2 Screening Criteria			DOWNTOWN EAST SITE (Lakeland Police Department)		DOWNTOWN WEST SITE (RP Funding Center)	
Criteria	**Score**	**Measure**	**Option A**	**Option B**	**Option A**	**Option B**
Total Bus Bays	2	More than 18 bays	0	1	2	2
	1	Between 16 and 18 bays				
	0	Less than 16 bays				
Bus Bay Configuration	2	Pull In/Out Primary	2	0	2	2
	0	Pull In/Back Out Primary				
Automobile Parking Spaces	2	More than 500	2	2	0	1
	1	Between 250 and 500				
	0	Less than 250				
First Floor Square Footage	2	More than 8,000	0	1	2	2
	1	Between 4,000 and 8,000				
	0	Less than 4,000				
Total Building Square Footage	2	30,001 or more	1	2	1	1
	1	Between 20,000 and 30,000				
	0	Less than 20,000				
Amtrak Station Relocation	2	No	2	2	0	0
	0	Yes				
Environmental Impacts	2	10 or less potential contaminated sites within 500' radius	0	0	2	2
	1	Between 11 and 20 potential contaminated sites within 500' radius				
	0	More than 20 potential contaminated sites within 500' radius				
Historic Resources Impacts	2	No known structures	2	2	0	1
	1	Structures can be avoided				
	0	Potential structures				

Lakeland Intermodal Center Feasibility Study Tier 2 Screening Criteria			DOWNTOWN EAST SITE (Lakeland Police Department)		DOWNTOWN WEST SITE (RP Funding Center)	
Criteria	**Score**	**Measure**	**Option A**	**Option B**	**Option A**	**Option B**
Total Cost	4	Less than $25 million	0	0	4	2
	2	Between $25 and $35 million				
	0	More than $35 million				
Economic Development Potential	4	High Potential	0	0	2	4
	2	Medium Potential				
	0	Low Potential				
Public Vote	6	25% of Max. Technical Score	2.75	3.25	6	5.5
		Total	**11.75**	**13.25**	**21**	**22.5**

6.0 Recommended Alternative

The recommended alternative is the Downtown West Option B. The recommended alternative was determined as a result of the study process involving the two-tier screening processes and identification, input and guidance from the PMT and PAC, and public input. The selected recommended site then moved forward to general configuration, a refined conceptual design with architectural character, and more detailed construction estimates. Additionally, potential revenue sources were identified.

6.1 PAC Meeting #5

The final PAC Meeting was held on December 12, 2019. The purpose of this meeting was to present the Tier 2 Screening Evaluation, select a recommended site, and discuss concept design refinements.

6.2 Coordination with Amtrak/CSX/Greyhound

The consultant team coordinated with Amtrak, Greyhound, and CSX to receive input on their needs and station design. The *Amtrak Station Program and Planning Guidelines* are included in the appendix.

6.3 Citrus Connection and City Commission Resolutions

Citrus Connection and the City of Lakeland passed resolutions in favor of the Downtown West Option B as the recommended site for the future intermodal center. Those resolutions are included in the appendix.

6.4 Conceptual Designs

Conceptual designs were updated with a refined site layout, configuration, and architectural elements. Based on input from the City of Lakeland, an additional level of parking was added, and a modern design aesthetic was developed. The final designs are displayed in **Figures 6-1 through 6-3** on the following pages.

FIGURE 6-1 CONCEPTUAL DESIGN VIEW 1

FIGURE 6-2 CONCEPTUAL DESIGN VIEW 2

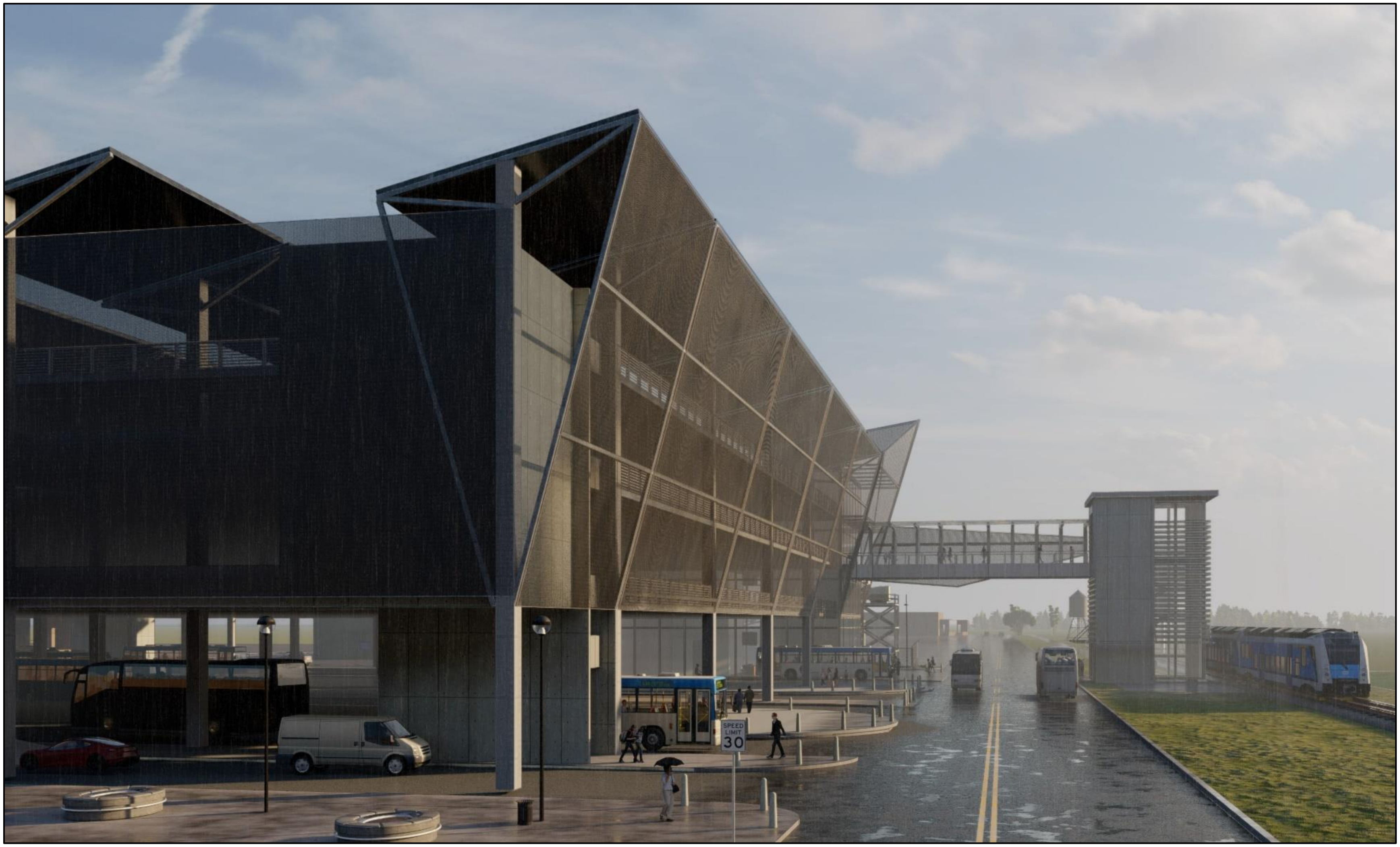
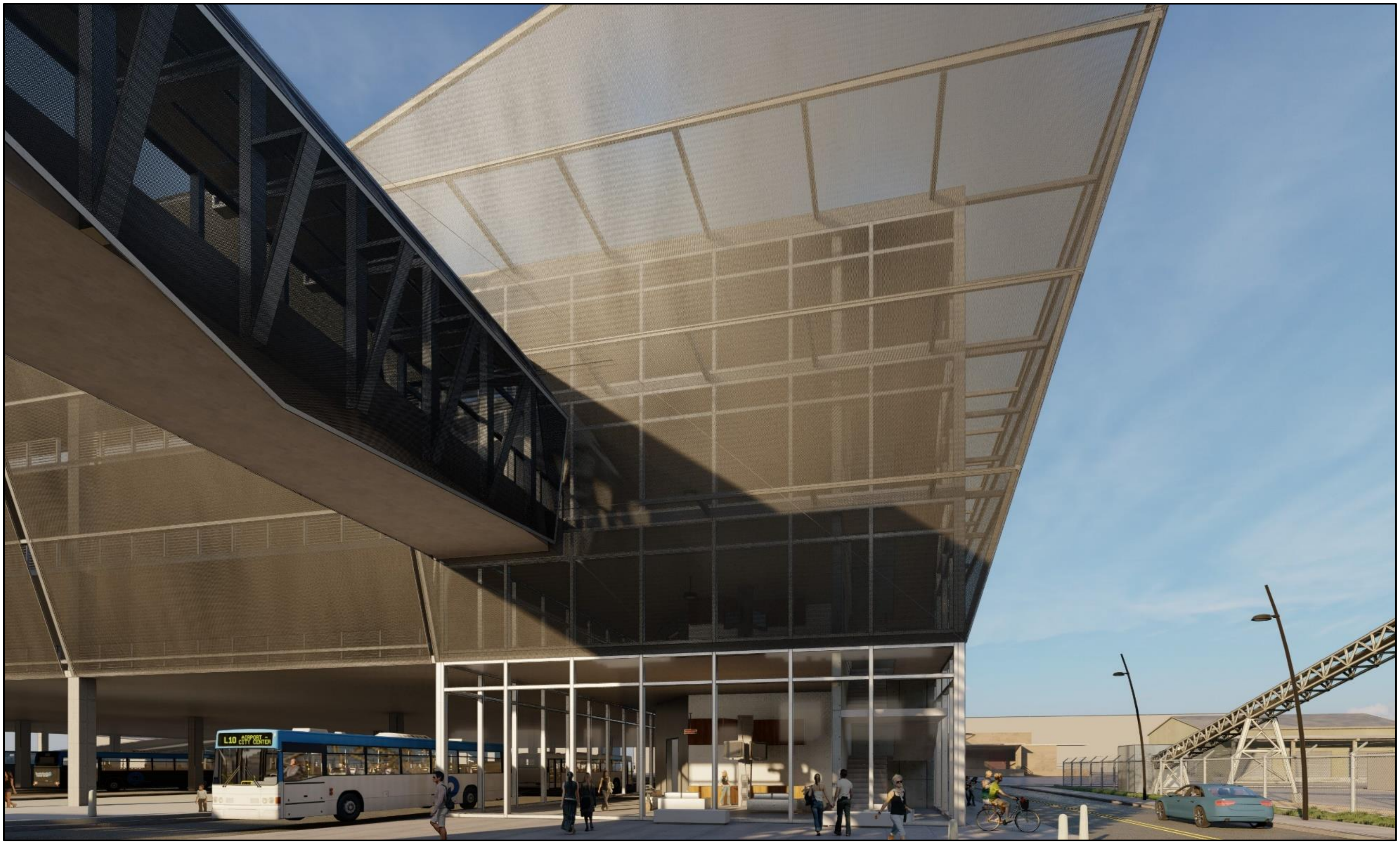


FIGURE 6-3 CONCEPTUAL DESIGN VIEW 3



6.5 Refined Cost Estimates

Refined cost estimates were developed for the final concept design. The total construction cost estimate in 2020 dollars is **$27,185,000** with an estimated range of construction cost between $25 million and $30 million. The specifics of the cost estimate are detailed in **Table 6**. The draft estimate is included in the appendix.

TABLE 6 REFINED COST ESTIMATES

Site Element	Description	Construction Estimate
Parking Garage	580 spaces ($18,000/space), includes stairs, electrical, fire protection (Levels 2-4).	$10,440,000
Ground Level 1	Bus Parking, Circulation, High Structure (100,000 square feet, $60/square foot).	$6,000,000
Conditioned Space	Includes restrooms, administration, and support areas (30,000 square feet at $250/square foot), 4 levels.	$7,500,000
Passenger Elevators	In garage. 4 each, 4 stops.	$720,000
Architectural Elements	Garage "skin" approximately 53,000 square feet at $25/square foot.	$1,325,000
Tower and Pedestrian Bridge	Includes stairs and elevator, not heated/ airconditioned.	$1,200,000
	Total	$27,185,000

The following items were not included in the refined cost estimate, but were included in the estimated range of construction cost:

- On site work including demolition, earthwork, drainage, utilities site prep, hardscape
- Solar array (roof top) including structural framing and accessories
- Off-site improvements (roads, signals, utilities, signage, site electrical, etc.)
- Furniture, fixtures, and equipment (FF&E) – ticket booths, vending machines, entry/exit arms, parking space guidance system, security cameras

The estimate **excludes** the following items:

- Site remediation/mitigation (muck removal, adverse site conditions)
- Right-of-way/property acquisition
- Design/engineering, planning, programming, construction administration, owner soft costs
- Escalation from present day (2020) to future mid-point of construction
- Scope associated with railroad (truck, signals, station, directional signage, crossings, safety, etc.)

6.6 Potential Revenue Sources

A review of potential Federal and State funding sources for development of the intermodal center was conducted. Some of these are formula grants available to urban areas, while others are competitive grants. Many of the Federal funding options are Federal Transit Administration (FTA) grants, that are provided through FDOT. Identified sources include:

Urbanized Area Formula Grants (5307)

The Urbanized Area Formula Funding program (49 U.S.C 5307) makes federal resources available to urbanized areas (like the City of Lakeland) to be used for transit capital and operating assistance for transportation-related planning.

- Match Requirements:
  - Federal share not to exceed 80% of net project costs for capital expenditures
  - Federal share not to exceed 90% for the cost of vehicle-related equipment
  - Federal share not to exceed 50% of net project costs of operating assistance.
- More information can be found on FTA's website: https://www.transit.dot.gov/funding/grants/urbanized-area-formula-grants-5307

State of Good Repair 5337 (Formula)

The State of Good Repair Grants Program (49 U.S.C 5337) provides capital assistance for maintenance, replacement, and rehabilitation projects for fixed guideway and bus systems.

- Match Requirements: Federal share may be up to 80% of net capital project costs.
- More information can be found on FTA's website: https://www.transit.dot.gov/funding/grants/state-good-repair-grants-5337

Bus and Bus Facilities 5339 (Formula and Comprehensive)

The Grants for Buses and Bus Facilities Program (49 U.S.C. 5339) provides federal resources for the replacement, rehabilitation, and purchasing of buses and bus-related equipment, and to construct bus-related facilities.

- Match Requirements: Federal share may be up to 80% of net capital project costs. However, the federal share may exceed 80% for certain projects related to the ADA, Clean Air Act, and certain bicycle projects.
- More information can be found on FTA's website: https://www.transit.dot.gov/bus-program

Surface Transportation Block Grant (STBG) (Formula)

Operating under the Fixing America's Surface Transportation Act (FAST Act), the STBG program for eligible surface transportation projects. The Federal share varies for each project. More information can be found on FHWA's website: https://www.fhwa.dot.gov/fastact/factsheets/stbgfs.cfm.

Better Utilizing Investments to Leverage Development (BUILD) Grants

Previously known as Transportation Investment Generating Economic Recovery (TIGER) grants, BUILD provides funding for multi-modal projects using a merit-based process. More information can be found on USDOT's website: https://www.transportation.gov/BUILDgrants/about.

State of Florida strategic intermodal system (SIS)

If the proposed Lakeland Intermodal Center was included on the SIS, additional funds for construction and/or operation may be available. These are not dedicated formula funds, and prioritization would go through FDOT at both the District level and Central Office.

7.0 Next Steps

Now that a recommended site to be considered for further analysis has been selected, the City of Lakeland will need to work with the Polk TPO and FDOT to prioritize the next phases of development. These include a National Environmental Policy Act (NEPA) analysis, design, right-of-way (ROW) acquisition, and finally construction.

7.1 Project Prioritization in CIP, TPO LRTP/Priorities/TIP, and FDOT Work Program

In order to allocate funding for the next phases of development, the project must be identified in local, regional, and state plans. The first step would be to have the project included on the Polk TPO's 2045 Long Range Transportation Plan (LRTP), which is currently in development. From there, the project would get added to the TPO's Project Priorities. As the project moves up on the list of priorities, FDOT will look to identify funding through their annual 5-Year Work Program development process. This effort would be conducted in conjunction with the Polk TPO's annual update of their 5-Year Transportation Improvement Program (TIP).

The City of Lakeland may also want to consider funding a portion, or all, of the project locally. This could include the use of public and/or private funds. The project should be added to the City's Capital Improvement Plan to reflect its importance and, if possible, funds allocated through the budgeting process.

7.2 FTA Notification and NEPA Process

Discussions with the City of Lakeland and Citrus Connection reflected a desire to seek Federal funds. As such, the City should work with FDOT to begin the process of applying for federal funding. The first step is for the potential grant applicant to notify the FTA that a concept has been identified for a future intermodal center. The project team has contacted the FDOT Transit Office and FTA Region 4 to make them aware of the project.

Now that the feasibility study has been completed, the findings contained in this report should be furnished to FTA for their review. Once FTA has deemed that the grant applicant has furnished "sufficient" descriptive information about the project and its impacts, they will advise the grant applicant of the probable NEPA class of action and the related level of documentation required from the NEPA process. The three NEPA Class of Action Levels are: Categorical Exclusion, Environmental Assessment, and Environmental Impact Statement. Following discussions with FTA staff, the grantee would submit a formal proposal. From there, FTA and the grantee will evaluate whether significant environmental impacts are anticipated. Based on this evaluation, FTA will determine the level of environmental documentation required.

APPENDICES

Appendix A: Public Involvement

Appendix B: Refined Site Location Analysis

Appendix C: Environmental Analysis

Appendix D: Amtrak/CSX, Greyhound Coordination

Appendix E: Resolutions

Appendix F: Refined Cost Estimates

APPENDIX A: PUBLIC INVOLVEMENT

Lakeland Intermodal Center in Polk County
Feasibility Study
Financial Project ID Number: 442569-1

Alternatives Public Meeting Summary

Date: Thursday, May 23, 2019

Time: 5:30 p.m. to 7:00 p.m. – Open House

Location: Peggy Brown Building
215 S. Lake Avenue
Lakeland, Florida 33801

Attendees: (signed in)
32 – Citizens
3 – Florida Department of Transportation (FDOT) representatives
5 – Consultant staff

The FDOT, District One, held an Alternatives Public Meeting on Thursday, May 23, 2019, from 5:30 p.m. to 7:00 p.m. at the Peggy Brown Building, 215 S. Lake Avenue, Lakeland, Florida. FDOT held the alternatives public meeting to present the Lakeland Intermodal Center proposed for the City of Lakeland. Attendees were offered the opportunity to express their views to FDOT staff regarding specific location and effects associated with the proposed intermodal center, then vote on which site alternative was most preferred.

Public meeting notification e-mails were sent to elected, appointed and agency officials of Polk County and the City of Lakeland. Notification flyers were distributed to more than 30 community centers and churches throughout the area. The notifications described the project, public meeting details, and included a project location map showing the potential site locations. Notification of the meeting also included a newspaper display advertisement in the Polk County News Chief and a press release sent to local newspaper, radio, and television stations. The notifications and advertisements for this public meeting are summarized in the table below.

Notification Summary

Notification	Date Sent/ Published	Recipients
E-mail	5/1/2019	Elected Officials
E-mail	5/1/2019	Public/Agency Officials
Notification Flyers	5/9/2019	Citizens and Interested Parties
Meeting Advertisement	5/16/2019	*Florida Administrative Register*
Meeting Advertisement	5/2/2019	*Lakeland Neighborhood Coalition Association Meeting*
Newspaper Display Ad	5/2/2019	*News Chief*
Newspaper Display Ad	5/16/2019	*News Chief*
Press Release	5/7/2019	Newspaper, Radio, and Television

As attendees entered the meeting, they were asked to sign in and were given a project handout. The meeting was conducted as an informal open house where members of the project team were available to answer questions and discuss the project "one-on-one" with attendees. FDOT presented a video about the project that played continuously. Aerial photographs with the interim operational improvements and poster boards were displayed. In addition, tables were set-up for attendees to sit down and complete comment forms.

The following project related information was displayed:

- Welcome Board
- Project Schedule
- Project Location Map
- Aerial Locations of Sites
- Evaluation Matrix
- Interactive Evaluation Matrix Voting Board
- Title VI Table Top Sign
- Interpretive Services Table Top Sign

A total of 32 private citizens registered at the alternatives public meeting along, three FDOT staff members, and five staff from the consultant team. Sixteen comment sheets were submitted at the meeting. Comments submitted during the alternatives public meeting are detailed in the table below. The comments focused primarily on the potential location of the intermodal center.

Public Comments Received During the Alternatives Public Meeting

Number of Commenters	Number of Comments	When Comments Received	How Comments Were Received
16	16	At the public meeting	Written comment form submitted in the comment box at the public meeting
Total comments received	16		

The votes received at the alternatives public meeting are summarized below.

Votes Received During the Alternatives Public Meeting

	Lakeland Police Department Site Area	Lake Wire Site Area	RP Funding Center Site Area	US 98 at I-4 North Site Area	US 98 at I-4 South Site Area
Most Preferred	4	1	10	0	1
	3	7	1	4	0
	5	2	5	1	2
	0	5	0	4	6
Least Preferred	4	1	0	7	6
Percentage of Votes	64%	63%	86%	43%	39%

Below is a summary of the written comments received. All comments are included as part of the project record.

- I-4 site locations are dependent on inter-city trains that are uncertain at this time.
- Downtown sites are best for downtown due to being pedestrian friendly.
- Downtown is in need of future development, which the intermodal center would help.
- Applaud the project but question the viability as a resident – commenter does not use the larger regional transit options because they don't extend where needed and are too expensive or are not frequent enough.
- Interesting that few seem to endorse looking at existing facilities and already proposed improvements in sites. Planned improvements may be the most important issue, but existing mode of public or volume of transit. Co-use of existing facilities may lead to decisions impacting new preferred development. Commenter looks forward to hearing all of the reported outcomes.
- Pleased to hear a Project Advisory Committee is being sought in this study. There is a lot of change occurring within Lakeland, so future growth and development needs to be considered. Prior to the next public meeting, commenter would like to see input and consideration taken from the current users and operators and more in-depth case studies that correlate with favorable sites. Recommended site is the RP Funding Center due to the proximity of developing local destinations, opportunity for continued redevelopment, and greatest opportunity to address all modes.
- Need forward thinking to transportation needs of the future not the present. RP Funding site means connectivity to Bonnet Springs, Amtrak, RP, and close to downtown; also connects well with Citrus Connection. US 98 North is a good site if the high-speed rail makes a stop in Lakeland with opportunities to shuttle to downtown. All of the downtown sites are better for bicyclists – not much bike safe infrastructure off US 98/-I4 corridor.
- This will be a great addition.
- Should not be in downtown to allow for increased density of buildings, offices, residential, mixed-use zones. Scale of multi-modal hub would disrupt or interrupt that urban scale. It should be accessible to downtown. Biggest problems are "first mile, last mile" issues. How do I get to my final destination after arriving to hub? – use of shared cars, bikes, etc. and increased frequency of bus/train runs.
- Commenter believes central city focus is critical to help bridge the divide and continue to develop a story of healthy downtown. RP Funding site would hopefully work in tandem with privately owned site immediately north; that site is an ideal location.

Lakeland Intermodal Center in Polk County
Feasibility Study
Financial Project ID Number: 442569-1

Alternatives Public Meeting #2 Summary

Date: Thursday, November 21, 2019

Time: 5:30 p.m. to 7:00 p.m. – Open House with a presentation at 6:00 p.m.

Location: Peggy Brown Building
215 S. Lake Avenue
Lakeland, Florida 33801

Attendees: (signed in)
13 – Citizens
2 – Florida Department of Transportation (FDOT) representatives
1 – City of Lakeland representative
3 – Consultant staff

The Florida Department of Transportation (FDOT), District One, held an Alternatives Public Meeting #2 on Thursday, November 21, 2019, from 5:30 p.m. to 7:00 p.m. at the Peggy Brown Building, 215 S. Lake Avenue, Lakeland, Florida. FDOT held the alternatives public meeting to present the Lakeland Intermodal Center proposed for the City of Lakeland. Attendees were offered the opportunity to express their views to FDOT staff regarding specific location and effects associated with the proposed intermodal center, then vote on which site alternative was most preferred.

Public meeting notification e-mails were sent to elected, appointed and agency officials of Polk County and the City of Lakeland. Property owners within 500 feet of either site location were notified via USPS mail. Notification flyers were distributed to the Lakeland Neighborhood Coalition Association. The notifications described the project, public meeting details, and included a project location map showing the potential site locations. Notification of the meeting also included a newspaper display advertisement in the Polk County News Chief and a press release sent to local newspaper, radio, and television stations. The notifications and advertisements for this public meeting are summarized in the table below.

Notification Summary

Notification	Date Sent/ Published	Recipients
E-mail	11/1/2019	Elected Officials
E-mail	11/1/2019	Public/Agency Officials
Property Owner Letter	10/27/2019	Property owners within 500 feet
Meeting Advertisement	11/14/2019	*Florida Administrative Register*
Newspaper Display Ad	11/1/2019	*News Chief*
Newspaper Display Ad	11/14/2019	*News Chief*
Press Release	10/25/2019	Newspaper, Radio, and Television

As attendees entered the meeting, they were asked to sign in and were given a project handout. The meeting was conducted as an open house where members of the project team were available to answer questions and discuss the project "one-on-one" with attendees. The consultant project manager, Wiatt Bowers, gave a live video presentation at 6:00 p.m. that explained the study to date, the two options that have been selected, and the next steps of the project. Aerial photographs with the improvements and poster boards were available for viewing. In addition, tables were setup for attendees to sit down and complete comment forms.

The following project related information was displayed:

- Welcome Board
- Project Schedule
- Project Location Map
- Aerial Locations of Sites
- Evaluation Matrix
- Interactive Evaluation Matrix Voting Board
- Title VI Table Top Sign
- Interpretive Services Table Top Sign

A total of 13 private citizens registered at the alternatives public meeting along with two FDOT staff members, one City of Lakeland staff member, and three staff from the consultant team. Seven comment sheets were submitted at the meeting and one comment was submitted after the meeting. Comments and votes submitted during and after the alternatives public meeting are detailed in the table below. The comments focused primarily on the location of the intermodal center.

Public Comment Sheets Received for the Alternatives Public Meeting

Number of Commenters	Number of Comments	When Comments Received	How Comments Were Received
7	7	At the public meeting	Written comment form submitted in the comment box at the public meeting
1	1	After the public meeting	Written comment form emailed
Total comments received	8		

The votes received on the comment forms are summarized below.

Votes Received for the Alternatives Public Meeting #2

	Downtown East Site Option A	Downtown East Site Option B	Downtown West Site Option A	Downtown West Site Option B
Most Preferred	0	1	3	3
	0	0	4	3
	3	4	0	1
Least Preferred	5	3	1	1
Percentage Favored	34%	47%	78%	75%

Below is a summary of the written comments received. All comments are included as part of the project record.

- Appreciate the connection over track to Sikes Development.
- East site does not support economic development. West site can be an anchor for economic growth in West Downtown and integrates with the RP Funding Center.
- Mostly problems: Either East Downtown options ends up with a multi-story parking garage that will block the lake view of part of the proposed Mirrorton Development, as well as, look obtrusive and out of place. The costs and environmental issues of having buses inside the garage could be high. Will LPD want to share a parking garage with the public? With the West Site, Option A eliminates the administration and sales office of a long time viable and profitable business (Cement Products). There is no room on their remaining property to house such a building as well as parking and customer traffic flow. The compensation would be costly. Even if Option B leaves the administration building alone, it blocks/disrupts traffic. The current bus station draws a lot of "undesirable" that hang around panhandling. Does the City want this element hanging around the Civic Center or the Mirrorton Development?

Lakeland Intermodal Center

Feasibility Study

Alternatives Public Meeting #2 – November 21, 2019

Name	Email or Mailing Address
Tony Delgado	anthony.delgado@lakelandgov.net
Rohan Sadhai	Rohan.Sadhai@atkinsglobal.com
Brian Rewis	brian.rewis@lakelandgov.net
David Bunch	David@Hauger-Bunch.com
William Roll	william.roll@kimley-horn.com
Hans Lehman	hans.lehman@lakelandgov.net
Wesley Beck	Wesley@WesleyBeck.com
Gary Clements	gary@cementproductsusa.com
Ryan Reis	RReis@LakelandChamber.com
Mary Russ	mary.russ@dot.state.FL.us

Lakeland Intermodal Center
Feasibility Study
Alternatives Public Meeting #2 – November 21, 2019

Name	Email or Mailing Address
Angelo Rao	angelo.rao@lakelandgov.net
BARRY A ZIMMERMAN	PO BOX 12, LAKELAND, FL 33902
Jim Russell	jharveyr@aol.com

Sign-in Sheets are Public Record

Lakeland Intermodal Center
Feasibility Study
Alternatives Public Meeting #2 – November 21, 2019

Staff Sign-In

	Name	Email or Mailing Address
1.	Brooke Feagle	brooke.feagle@atkinsglobal.com
2.	Wiatt Bowers	wiatt.bowers@atkinsglobal.com
3.	Mirabela Ticu	mira.ticu@atkinsglobal.com
4.	Paul Simmons	PAUL.SIMMONS@DOT.STATE.FL.US
5.	Michelle S. Peronto	michelle.peronto@dot.state.fl.us
6.	Chuck Barmby	Charles.Barmby@polk-county.net
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
18.		
19.		
20.		
21.		
22.		
23.		
24.		
25.		

Lakeland Intermodal Center
Feasibility Study
Alternatives Public Meeting #2 – November 21, 2019

Comment Sheet

Please provide any comments you may have regarding the Lakeland Intermodal Center Feasibility Study. This Study is being conducted to identify and evaluate potential sites for a new transportation hub in Lakeland that would serve multiple local and intercity transit services in Lakeland, Florida.

Appreciate the connection over track to SIKES DEVELOPMENT

Site Ranking

Please rank the potential sites and options for the Lakeland Intermodal Center most preferred between the two potential sites with 1 being the most preferred and 4 being the least preferred location.

Downtown East Site Option A	1	2	3	4
Downtown East Site Option B	1	2	3	4
Downtown West Site Option A	1	2	3	4
Downtown West Site Option B	1	2	3	4

Name: ______________________

Address: ______________________

____

NOTE: Please complete and return to the "Comments" Box; mail to Paul Simmons at the address on the back of this sheet; or e-mail comments to Paul.Simmons@dot.state.fl.us by Thursday, November 28, 2019. All comments are part of the project record and are available for viewing by the public and media.

☐ Please add me to the mailing list for the Lakeland Intermodal Center Feasibility Study.

It is the policy of the Florida Department of Transportation that no person be denied the benefits of or be subjected to discrimination or retaliation under any program or activity administered by the Department or its sub-recipients on the basis of race, color, national origin, sex, age, disability/handicap, or income status.

Lakeland Intermodal Center
Feasibility Study
Alternatives Public Meeting #2 – November 21, 2019

Intermodal Center
Feasibility Study

FDOT

Comment Sheet

Please provide any comments you may have regarding the Lakeland Intermodal Center Feasibility Study. This Study is being conducted to identify and evaluate potential sites for a new transportation hub in Lakeland that would serve multiple local and intercity transit services in Lakeland, Florida.

Site Ranking

Please rank the potential sites and options for the Lakeland Intermodal Center most preferred between the two potential sites with 1 being the most preferred and 4 being the least preferred location.

Downtown East Site Option A	1	2	3	4
Downtown East Site Option B	1	2	3	4
Downtown West Site Option A	1	2	3	4
Downtown West Site Option B	1	2	3	4

Name: ____________________

Address: ____________________

NOTE: Please complete and return to the "Comments" Box; mail to Paul Simmons at the address on the back of this sheet; or e-mail comments to Paul.Simmons@dot.state.fl.us by Thursday, November 28, 2019. All comments are part of the project record and are available for viewing by the public and media.

☐ Please add me to the mailing list for the Lakeland Intermodal Center Feasibility Study.

It is the policy of the Florida Department of Transportation that no person be denied the benefits of or be subjected to discrimination or retaliation under any program or activity administered by the Department or its sub-recipients on the basis of race, color, national origin, sex, age, disability/handicap, or income status.

Lakeland Intermodal Center Feasibility Study

Intermodal Center Feasibility Study

Alternatives Public Meeting #2 – November 21, 2019

Comment Sheet

Please provide any comments you may have regarding the Lakeland Intermodal Center Feasibility Study. This Study is being conducted to identify and evaluate potential sites for a new transportation hub in Lakeland that would serve multiple local and intercity transit services in Lakeland, Florida.

East site does not support economic development

West site can be a anchor for economic growth in West Downtown and integrates with RP Funding Center

Site Ranking

Please rank the potential sites and options for the Lakeland Intermodal Center most preferred between the two potential sites with 1 being the most preferred and 4 being the least preferred location.

Downtown East Site Option A	1	2	3	4
Downtown East Site Option B	1	2	3	4
Downtown West Site Option A	1	2	3	4
Downtown West Site Option B	1	2	3	4

Name: William Roll

Address: william.roll@kimley-horn.com

NOTE: Please complete and return to the "Comments" Box; mail to Paul Simmons at the address on the back of this sheet; or e-mail comments to Paul.Simmons@dot.state.fl.us by Thursday, November 28, 2019. All comments are part of the project record and are available for viewing by the public and media.

☐ Please add me to the mailing list for the Lakeland Intermodal Center Feasibility Study.

It is the policy of the Florida Department of Transportation that no person be denied the benefits of or be subjected to discrimination or retaliation under any program or activity administered by the Department or its sub-recipients on the basis of race, color, national origin, sex, age, disability/handicap, or income status.

Intermodal Center
Feasibility Study

Lakeland Intermodal Center
Feasibility Study

FDOT

Alternatives Public Meeting #2 – November 21, 2019

Comment Sheet

Please provide any comments you may have regarding the Lakeland Intermodal Center Feasibility Study. This Study is being conducted to identify and evaluate potential sites for a new transportation hub in Lakeland that would serve multiple local and intercity transit services in Lakeland, Florida.

Site Ranking

Please rank the potential sites and options for the Lakeland Intermodal Center most preferred between the two potential sites with 1 being the most preferred and 4 being the least preferred location.

Downtown East Site Option A	1	2	3	4
Downtown East Site Option B	1	2	3	4
Downtown West Site Option A	1	2	3	4
Downtown West Site Option B	1	2	3	4

Name: Wesley Beck
Address: 4100 Frontage Rd S. Suite 101
Lakeland Fl 33815

NOTE: Please complete and return to the "Comments" Box; mail to Paul Simmons at the address on the back of this sheet; or e-mail comments to Paul.Simmons@dot.state.fl.us by Thursday, November 28, 2019. All comments are part of the project record and are available for viewing by the public and media.

☑ Please add me to the mailing list for the Lakeland Intermodal Center Feasibility Study.

It is the policy of the Florida Department of Transportation that no person be denied the benefits of or be subjected to discrimination or retaliation under any program or activity administered by the Department or its sub-recipients on the basis of race, color, national origin, sex, age, disability/handicap, or income status.

Lakeland Intermodal Center
Feasibility Study
Alternatives Public Meeting #2 – November 21, 2019

Comment Sheet

Please provide any comments you may have regarding the Lakeland Intermodal Center Feasibility Study. This Study is being conducted to identify and evaluate potential sites for a new transportation hub in Lakeland that would serve multiple local and intercity transit services in Lakeland, Florida.

Site Ranking

Please rank the potential sites and options for the Lakeland Intermodal Center most preferred between the two potential sites with 1 being the most preferred and 4 being the least preferred location.

Downtown East Site Option A	1	2	3	4
Downtown East Site Option B	1	2	3	4
Downtown West Site Option A	1	2	3	4
Downtown West Site Option B	1	2	3	4

Name: ______________________

Address: ______________________

____

NOTE: Please complete and return to the "Comments" Box; mail to Paul Simmons at the address on the back of this sheet; or e-mail comments to Paul.Simmons@dot.state.fl.us by Thursday, November 28, 2019. All comments are part of the project record and are available for viewing by the public and media.

☐ Please add me to the mailing list for the Lakeland Intermodal Center Feasibility Study.

It is the policy of the Florida Department of Transportation that no person be denied the benefits of or be subjected to discrimination or retaliation under any program or activity administered by the Department or its sub-recipients on the basis of race, color, national origin, sex, age, disability/handicap, or income status.

Lakeland Intermodal Center Feasibility Study

Lakeland Intermodal Center
Feasibility Study

Alternatives Public Meeting #2 – November 21, 2019

Comment Sheet

Please provide any comments you may have regarding the Lakeland Intermodal Center Feasibility Study. This Study is being conducted to identify and evaluate potential sites for a new transportation hub in Lakeland that would serve multiple local and intercity transit services in Lakeland, Florida.

Site Ranking

Please rank the potential sites and options for the Lakeland Intermodal Center most preferred between the two potential sites with 1 being the most preferred and 4 being the least preferred location.

Downtown East Site Option A	1	2	3	4
Downtown East Site Option B	1	2	3	4
Downtown West Site Option A	1	2	3	4
Downtown West Site Option B	1	2	3	4

Name: Brian Rewis

Address: 228 S. Massachusetts Ave.
Lakeland FL 33801

NOTE: Please complete and return to the "Comments" Box; mail to Paul Simmons at the address on the back of this sheet; or e-mail comments to Paul.Simmons@dot.state.fl.us by Thursday, November 28, 2019. All comments are part of the project record and are available for viewing by the public and media.

☐ Please add me to the mailing list for the Lakeland Intermodal Center Feasibility Study.

It is the policy of the Florida Department of Transportation that no person be denied the benefits of or be subjected to discrimination or retaliation under any program or activity administered by the Department or its sub-recipients on the basis of race, color, national origin, sex, age, disability/handicap, or income status.

Lakeland Intermodal Center
Feasibility Study

Intermodal Center
Feasibility Study

FDOT

Alternatives Public Meeting #2 – November 21, 2019

Comment Sheet

Please provide any comments you may have regarding the Lakeland Intermodal Center Feasibility Study. This Study is being conducted to identify and evaluate potential sites for a new transportation hub in Lakeland that would serve multiple local and intercity transit services in Lakeland, Florida.

Site Ranking

Please rank the potential sites and options for the Lakeland Intermodal Center most preferred between the two potential sites with 1 being the most preferred and 4 being the least preferred location.

Downtown East Site Option A	1	2	3	4
Downtown East Site Option B	1	2	3	4
Downtown West Site Option A	1	2	3	4
Downtown West Site Option B	1	2	3	4

Name: Ryan Reis

Address: 1703 meadowbrook Ave
Lakeland FL 33803

NOTE: Please complete and return to the "Comments" Box; mail to Paul Simmons at the address on the back of this sheet; or e-mail comments to Paul.Simmons@dot.state.fl.us by Thursday, November 28, 2019. All comments are part of the project record and are available for viewing by the public and media.

☒ Please add me to the mailing list for the Lakeland Intermodal Center Feasibility Study.

It is the policy of the Florida Department of Transportation that no person be denied the benefits of or be subjected to discrimination or retaliation under any program or activity administered by the Department or its sub-recipients on the basis of race, color, national origin, sex, age, disability/handicap, or income status.

Lakeland Intermodal Center Feasibility Study

Intermodal Center Feasibility Study

FDOT

Alternatives Public Meeting #2 – November 21, 2019

Comment Sheet

Please provide any comments you may have regarding the Lakeland Intermodal Center Feasibility Study. This Study is being conducted to identify and evaluate potential sites for a new transportation hub in Lakeland that would serve multiple local and intercity transit services in Lakeland, Florida.

MOSTLY PROBLEMS: * EITHER EAST DOWNTOWN OPTIONS ENDS UP WITH A MULTI-STORY PARKING GARAGE THAT WILL BLOCK THE LAKE VIEW OF PART OF THE PROPOSED MIRRORTON DEVELOPMENT AS WELL AS LOOK OBTRUSIVE AND OUT OF PLACE.

* THE COSTS AND ENVIRONMENTAL ISSUES OF HAVING BUSES INSIDE THE GARAGE COULD BE HIGH.

* WILL LPD WANT TO SHARE A PARKING GARAGE WITH THE PUBLIC?

* WITH THE WEST SITE, OPTION A ELIMINATES THE ADMINISTRATION & SALES OFFICE OF A LONG TIME VIABLE AND PROFITABLE BUSINESS (CEMENT PRODUCTS). THERE IS NO ROOM ON THEIR REMAINING PROPERTY TO HOUSE SUCH A BUILDING AS WELL AS PARKING AND CUSTOMER TRAFFIC FLOW. THE COMPENSATION WOULD BE COSTLY.

* EVEN IF OPTION B LEAVES THE ADMINISTRATION BUILDING ALONE, IT BLOCKS/DISRUPTS TRAFFIC FLOW.

* THE CURRENT BUS STATION DRAWS A LOT OF "UNDESIRABLE" THAT HANG AROUND PANHANDLING. DOES THE CITY WANT THIS ELEMENT HANGING AROUND THE CIVIC CENTER OR THE MIRRORTON DEVELOPMENT?

Site Ranking

Please rank the potential sites and options for the Lakeland Intermodal Center most preferred between the two potential sites with 1 being the most preferred and 4 being the least preferred location.

Downtown East Site Option A	1	2	3	4
Downtown East Site Option B	1	2	3	4
Downtown West Site Option A	1	2	3	4
Downtown West Site Option B	1	2	3	4

Name: JIM RUSSELL

Address: P.O. BOX 12
LAKELAND, FL 33802

NOTE: Please complete and return to the "Comments" Box; mail to Paul Simmons at the address on the back of this sheet; or e-mail comments to Paul.Simmons@dot.state.fl.us by Thursday, November 28, 2019. All comments are part of the project record and are available for viewing by the public and media.

☐ Please add me to the mailing list for the Lakeland Intermodal Center Feasibility Study.

APPENDIX B: REFINED SITE LOCATION ANALYSIS

EXISTING BUILDINGS (PD site)

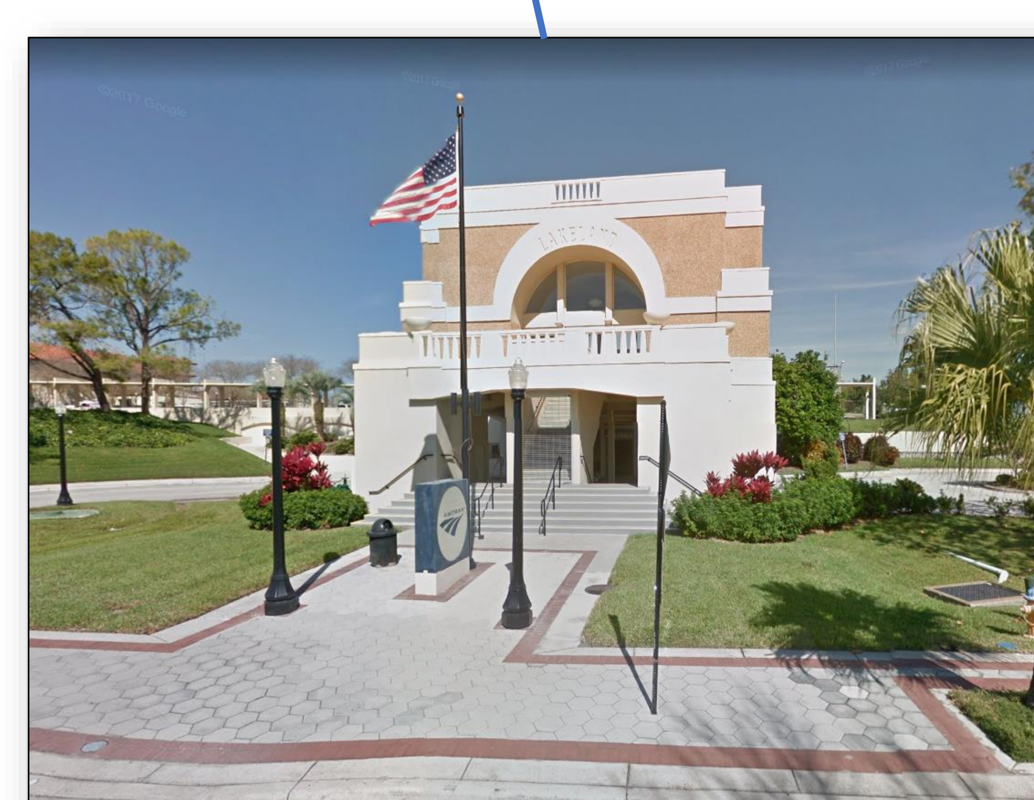
Former Greyhound Station

Lakeland Police Department

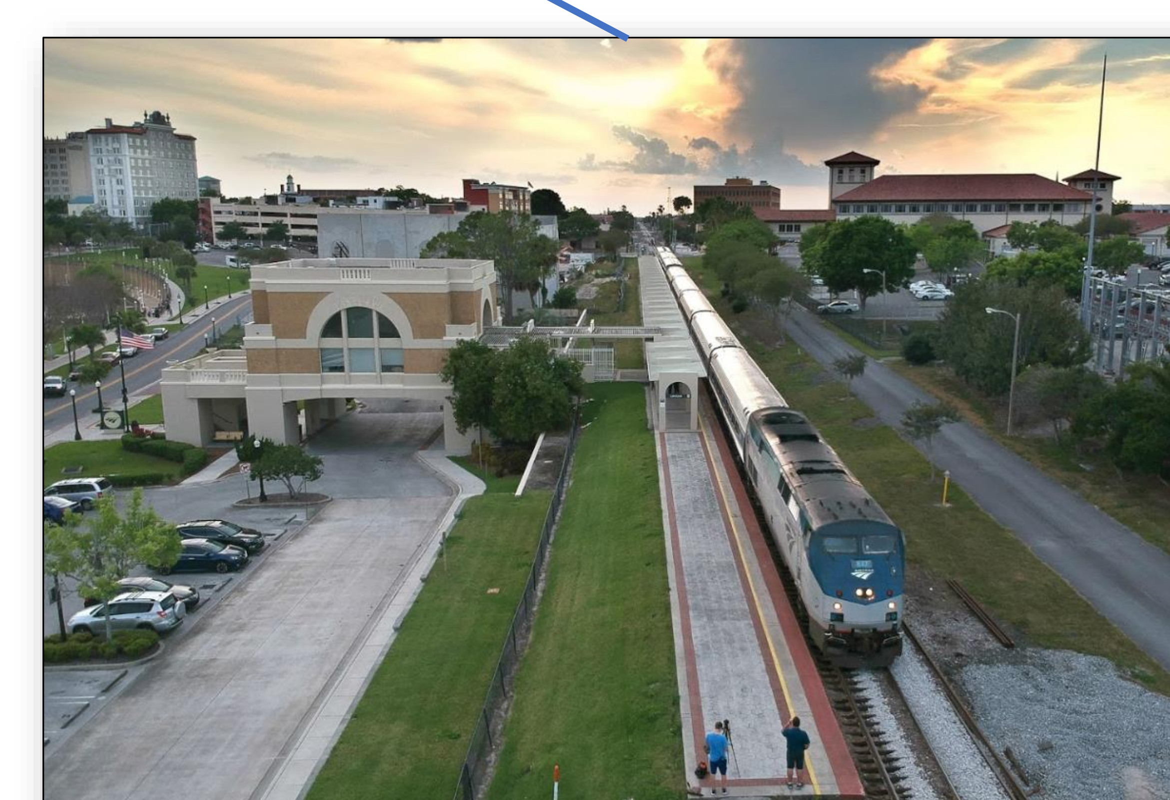
Power Plant

The Joinery - Restaurant

New Construction



Current Lakeland Station



Existing Rail

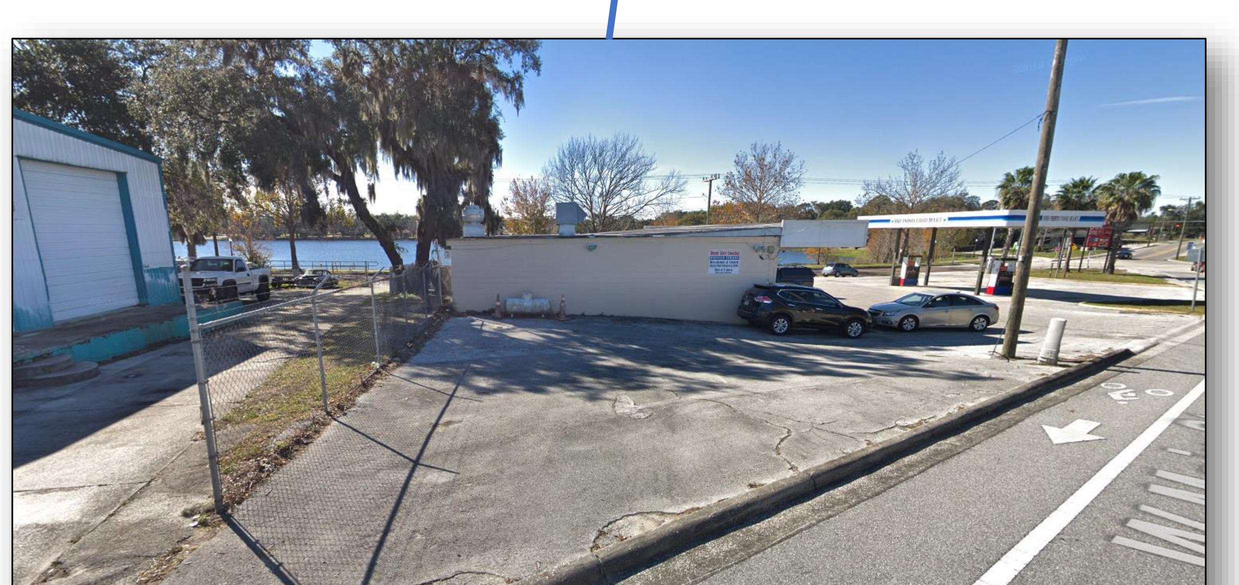
EXISTING BUILDINGS (RP Funding Site)

Warehouse

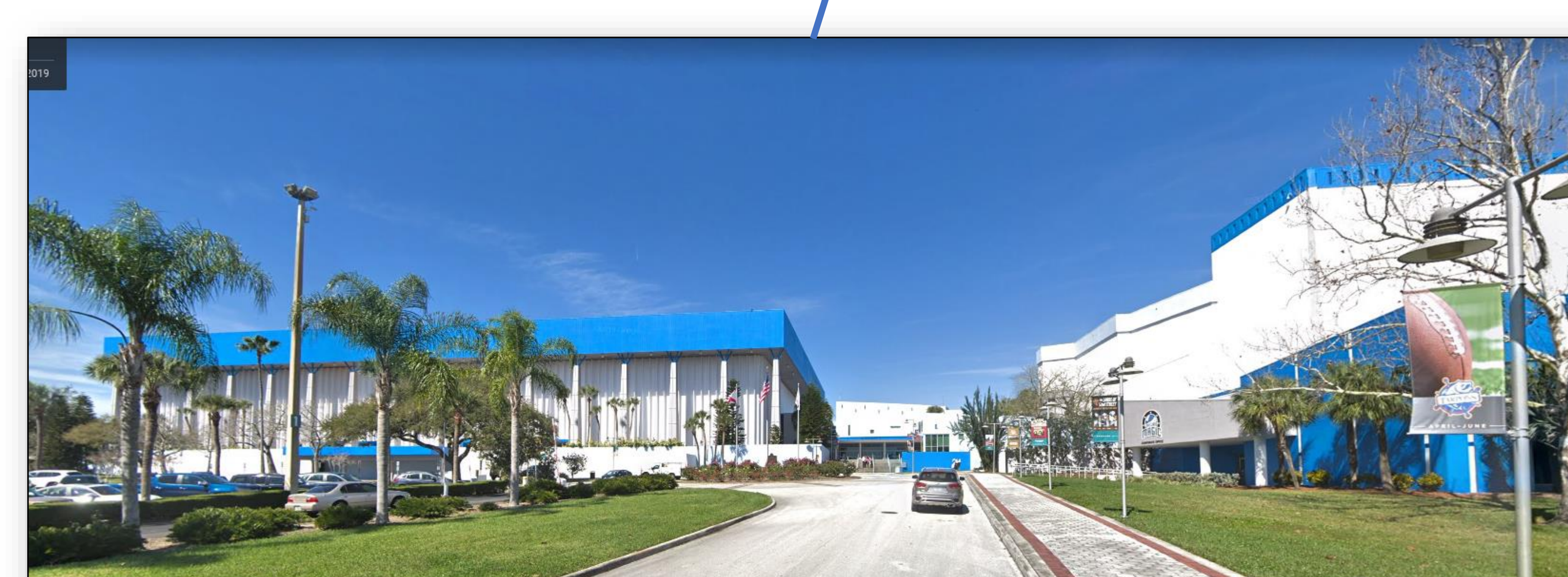
Cement Products & Supply Co

Cement Products & Supply Co

Historic Building (Abandoned)



Auto body shop and gas station



RP Funding Center

Hyatt Place

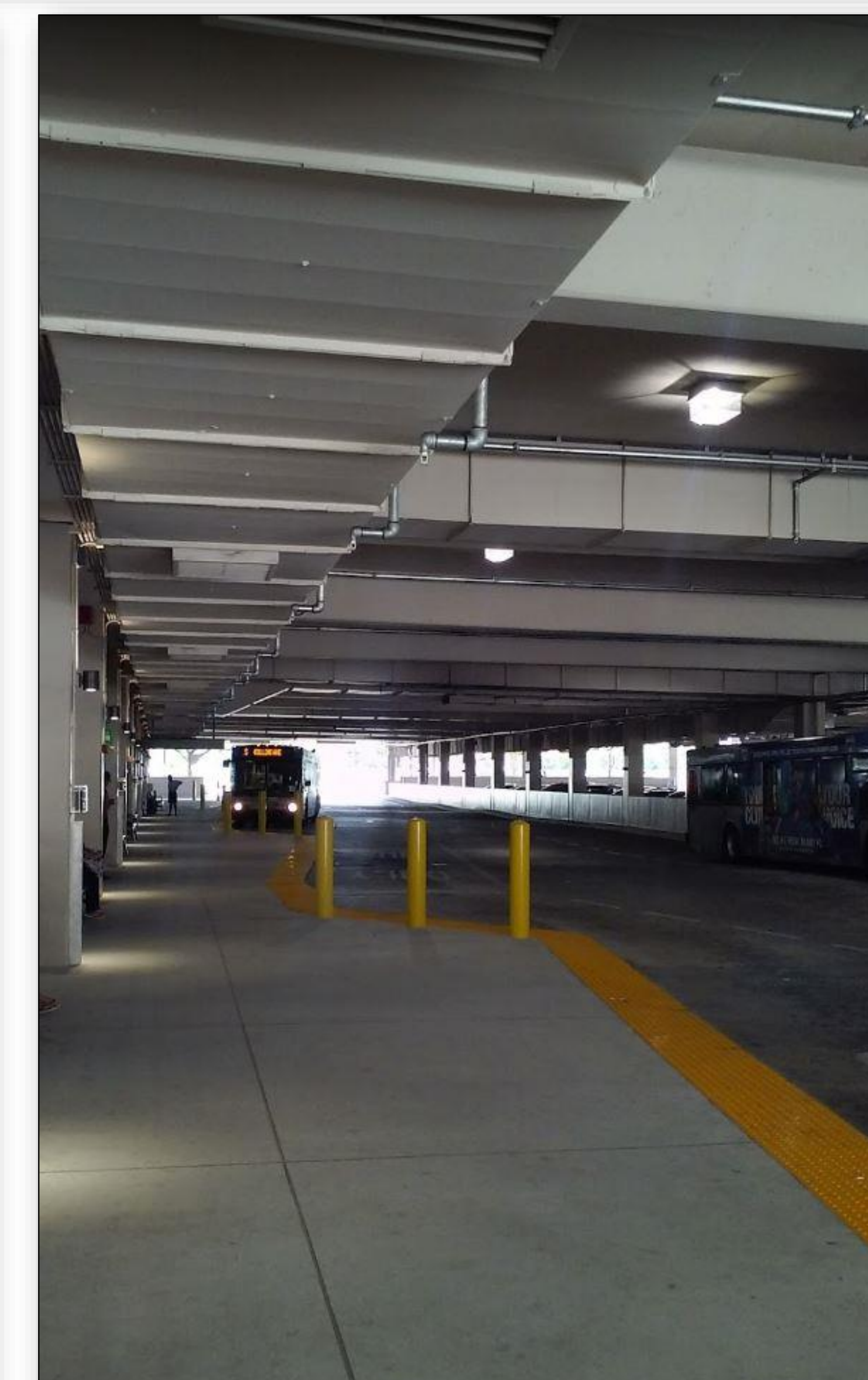
Aventura Mall Bus Terminal

+

- Separate bus vs car entrance
- Sawtooth bus bays
- Close proximity to hospital

-

- No visible bus terminal signage
- Monolithic, no architectural design features



Lynx Central Station

+

- Beautiful design
- Access to downtown businesses, shopping & entertainment
- At grade rail access

-

- No onsite parking

Athens Transit Multimodal Center

+

- Fits in with the existing architecture
- Easy access to site
- retrofitted with solar capacities in 2012

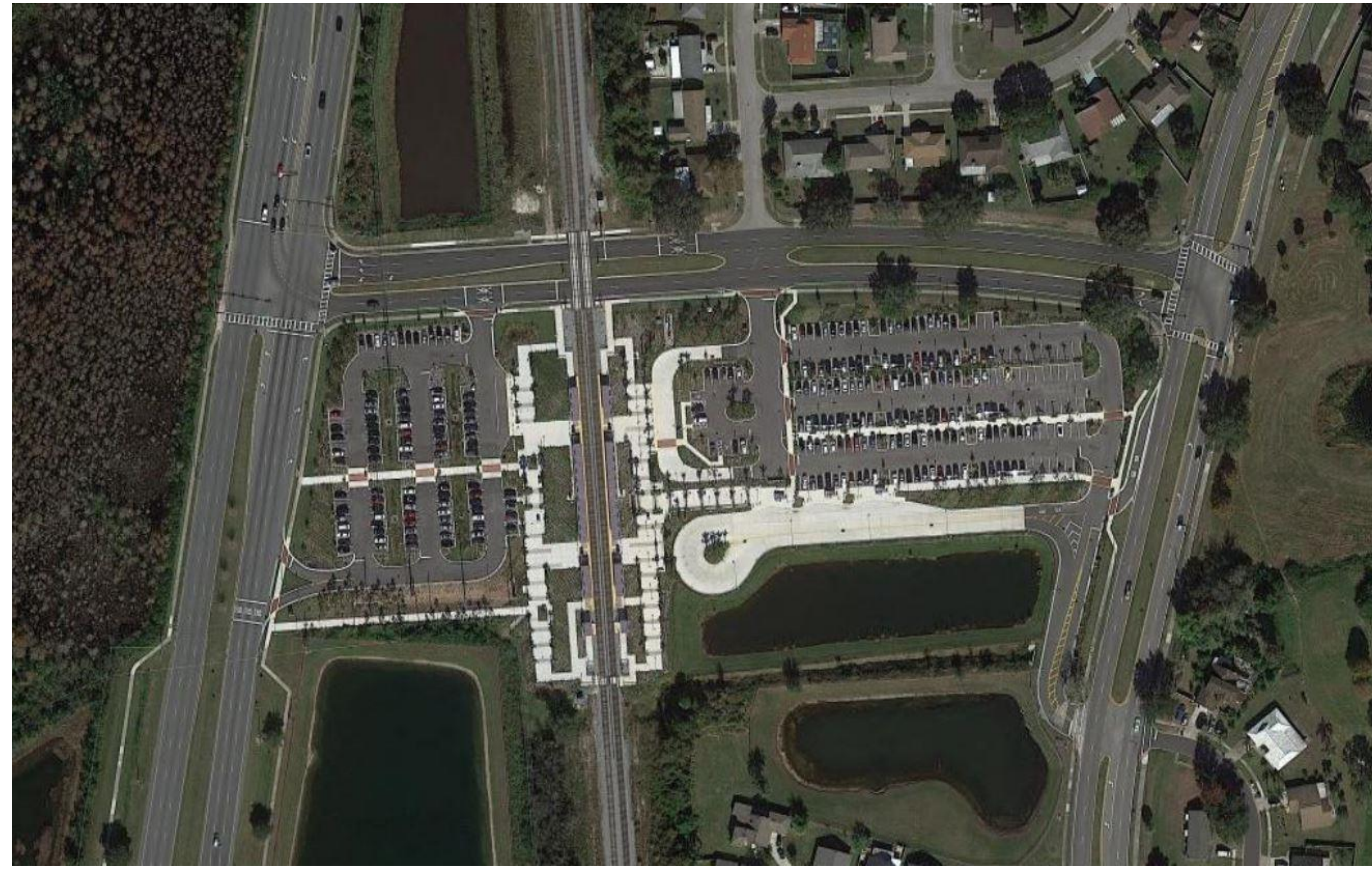
\-

- Parking garage is across the tracks
- No pull-through bus parking

Meadow Woods SunRail Station

+

- Modern, clean design
- Easy access
- Pedestrian and bike friendly



-

- Suburban, distant from urban center
- Currently no commuter facilities available
- No food venues on site

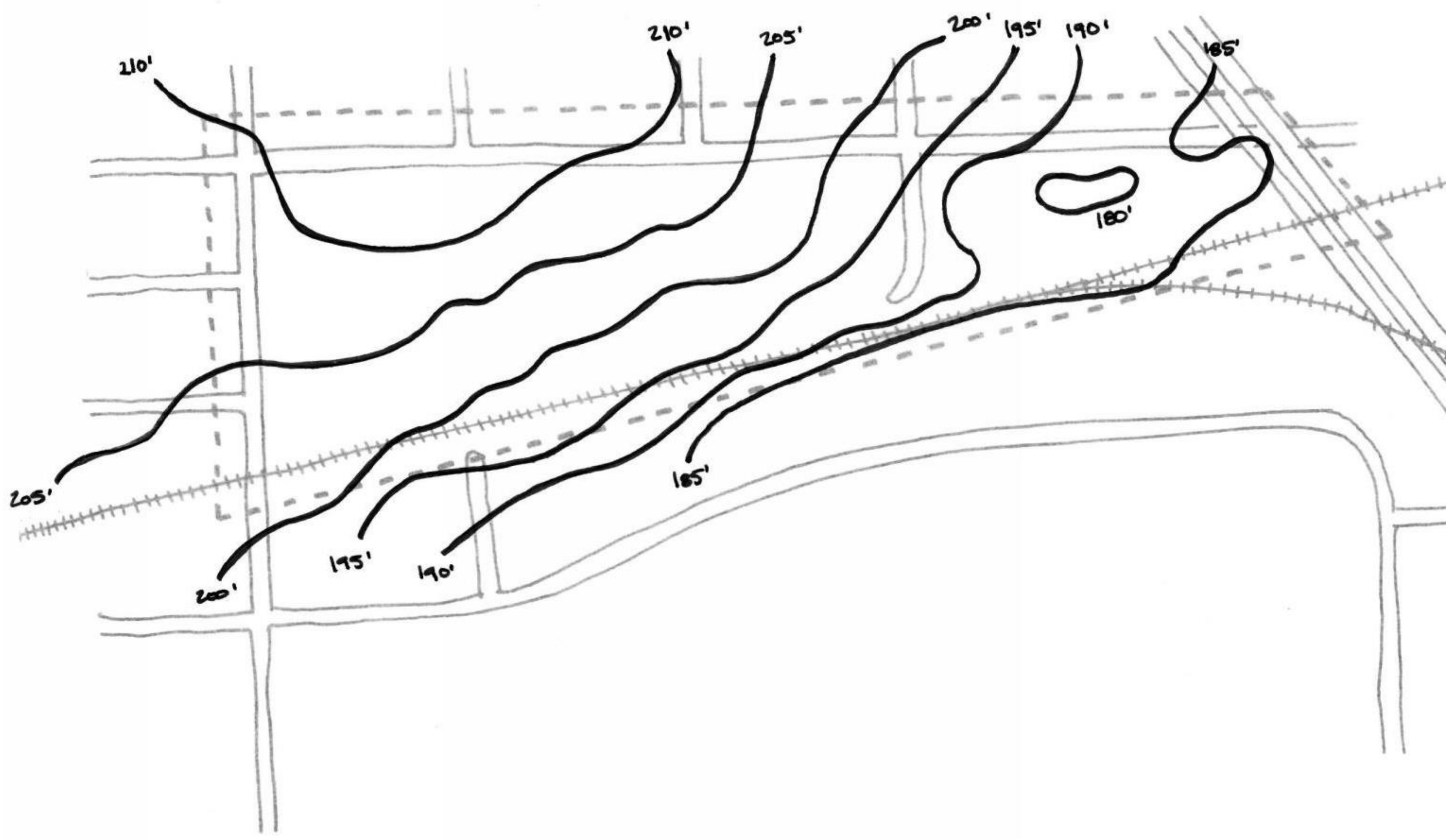
Facility Requirements

Existing Parking:

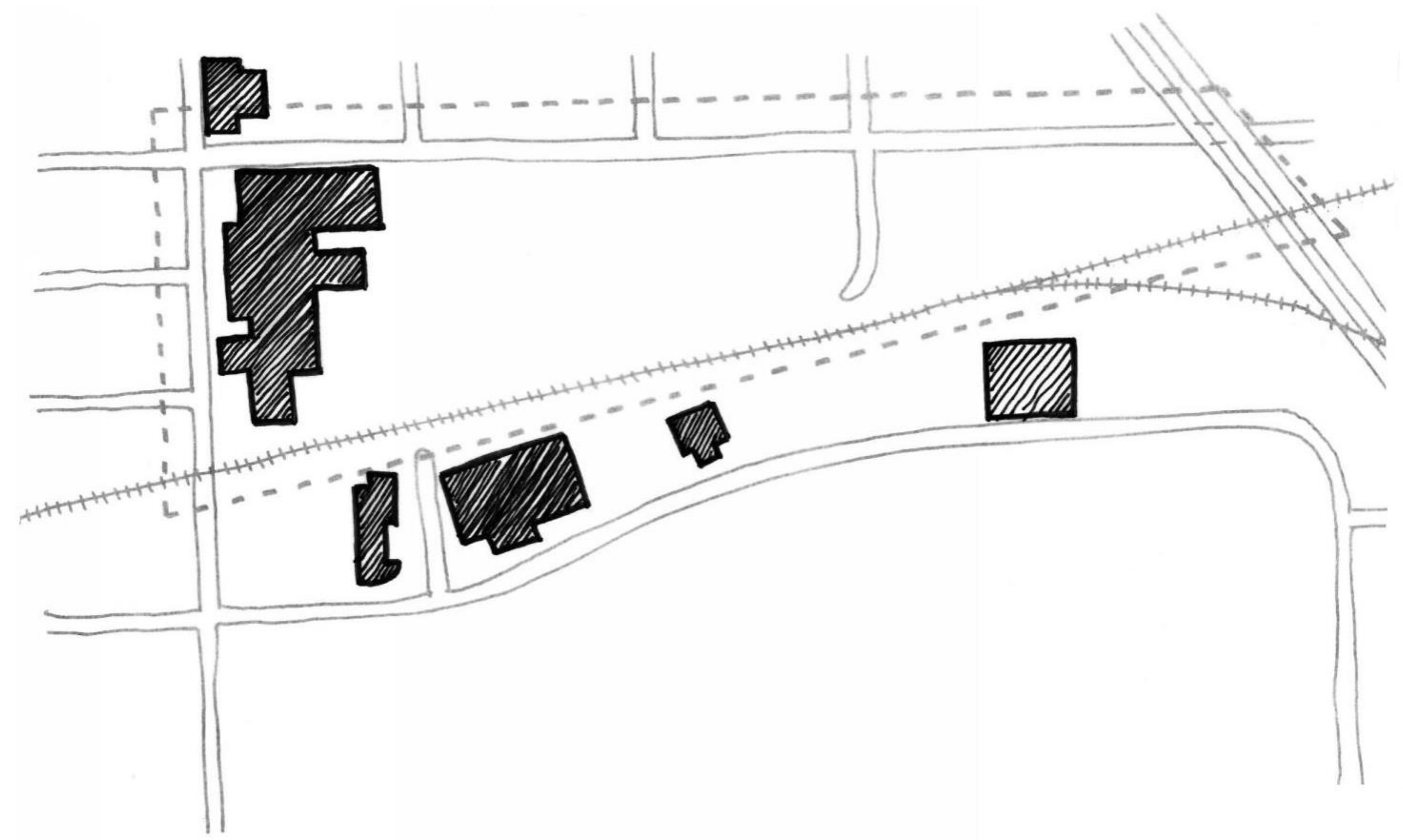
Facility Requirements	Area (LF/SF)		Comments
Amtrak Accommodation:			
Minimum of 1,200' of clear space of track to accommodate Amtrak train	1,200	LF	Accommodates regional transit
800-900' of platform			
Parking:			
Accommodate up to 150 spaces (20 ST, 100 LT, and remainder for admin/reserved)	50,000	SF	Supports short- and long-term parking on-site
Ability for future expansion			
Transportation center:			
Accommodate up to 160 average hourly riders (midday peak)			
Lounge area with café	12,000	SF	Building hub
Transportation center (admin, security, maintenance, bathrooms, meeting room, etc.)			
Citrus Connection:			
Accommodate 14 buses (West County routes)	44,000	SF	Space for up to 16 buses at any one time
Greyhound and Megabus			
Multimodal Accommodations:			
Drop-off area			
Storage for Uber, LYFT, and taxis (dedicated parking or queue lanes)	25,000	SF	Include pedestrian and bicycle facilities on-site, as well as connect/promote connections off-site
Bicycle access and storage			
Pedestrian access			
Access:			Separate access for bus and the general public
Accessible by all modes of travel (car, bus, train, bicycle and walking)			
Architecture:			Maintain local feel
Consistent with Lakeland government facilities			


PD
1,800 ft
1,800 ft
RP
Google

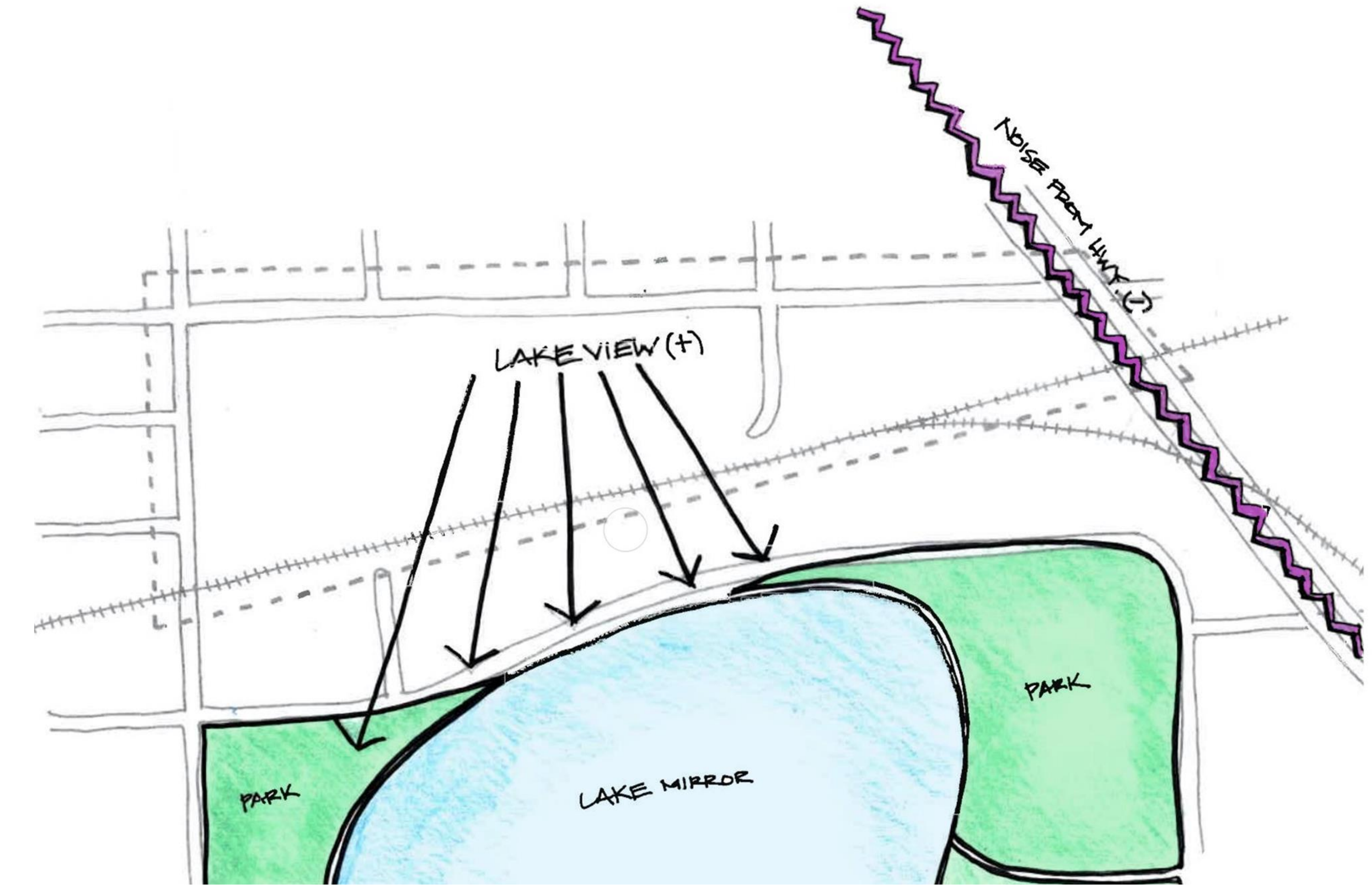
SITE ANALYSIS (Lakeland Police Department Site)



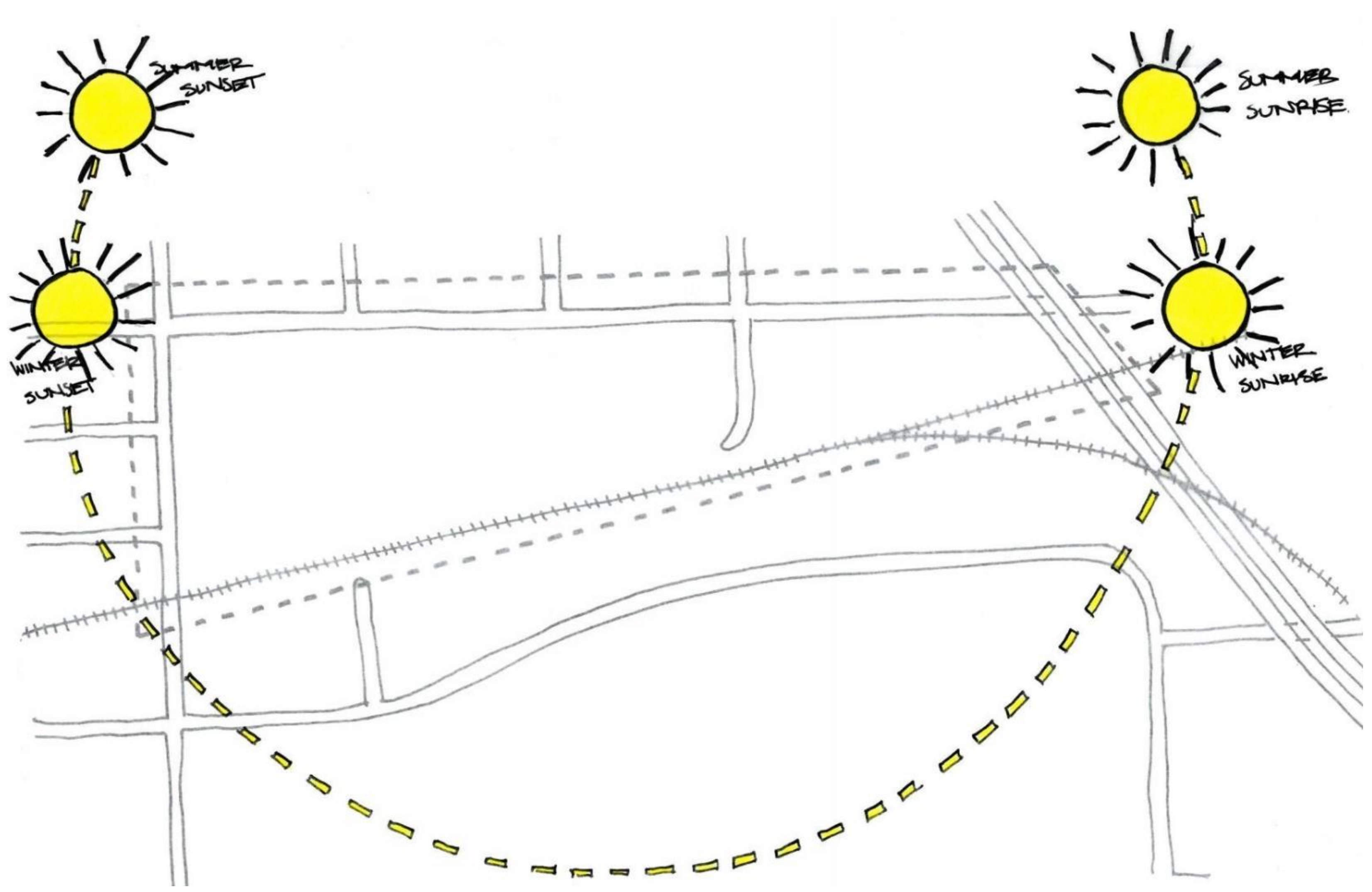
1. SITE CONTOURS



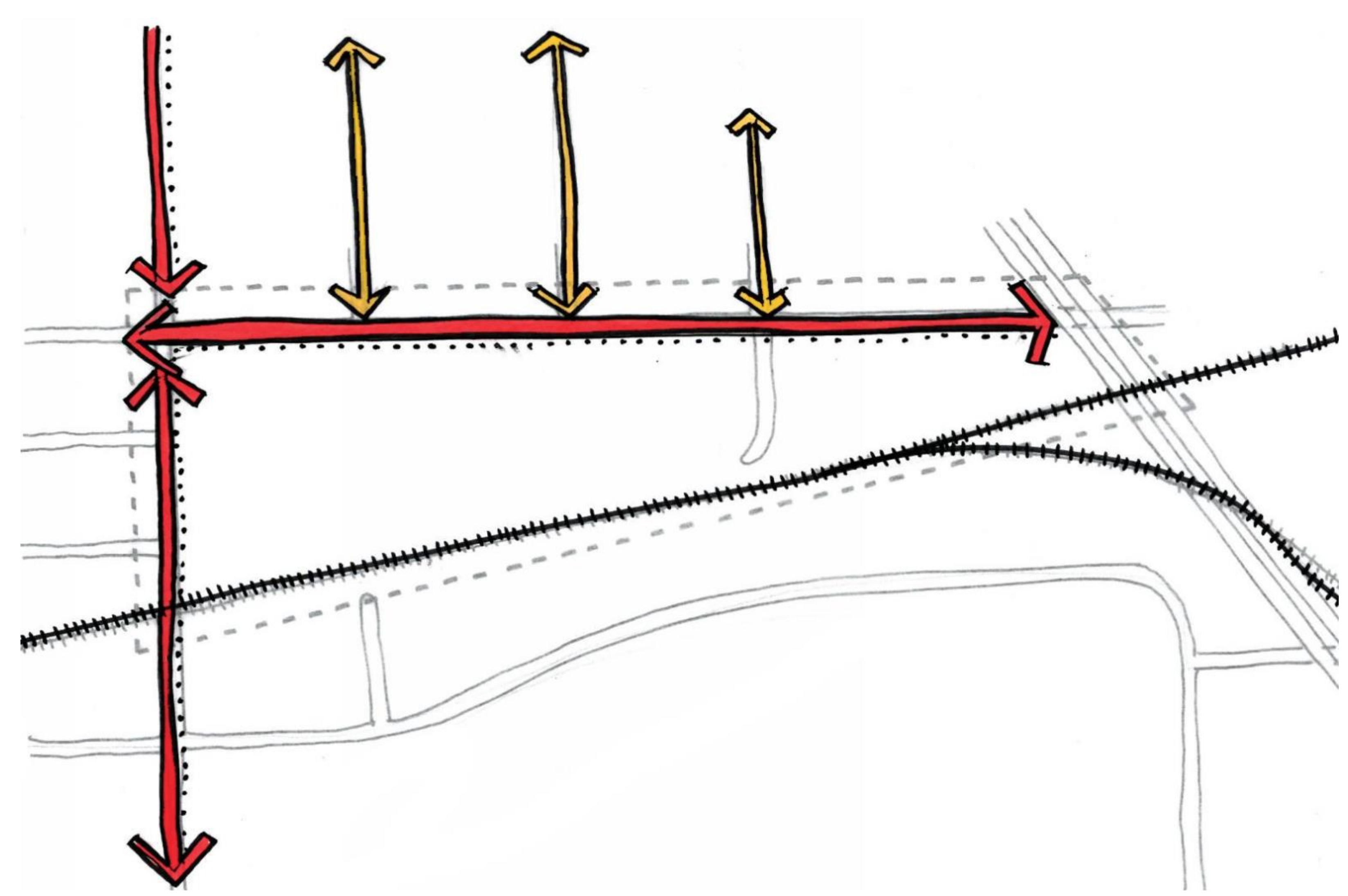
2. FIGURE-GROUND



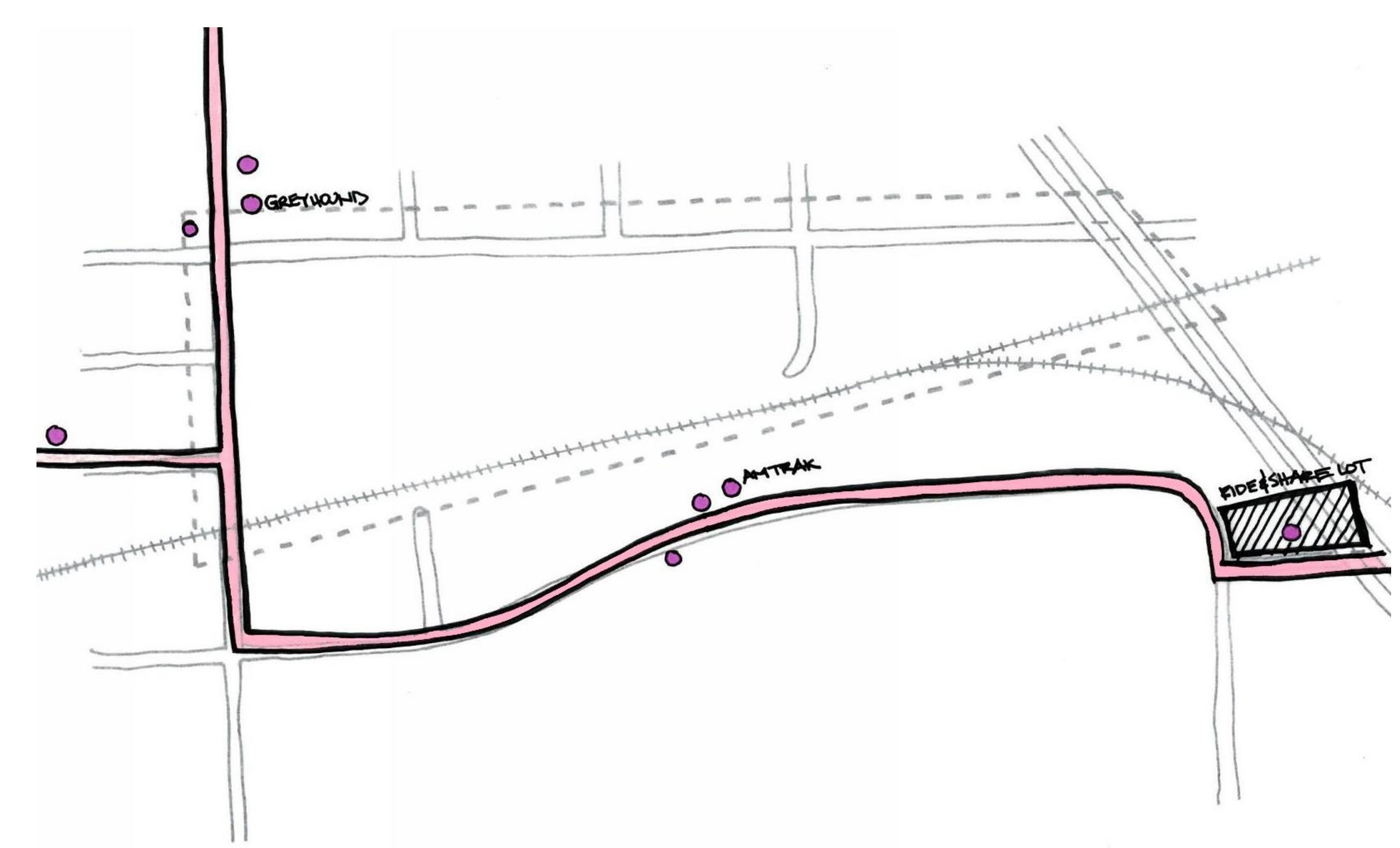
3. VIEWS & NOISE



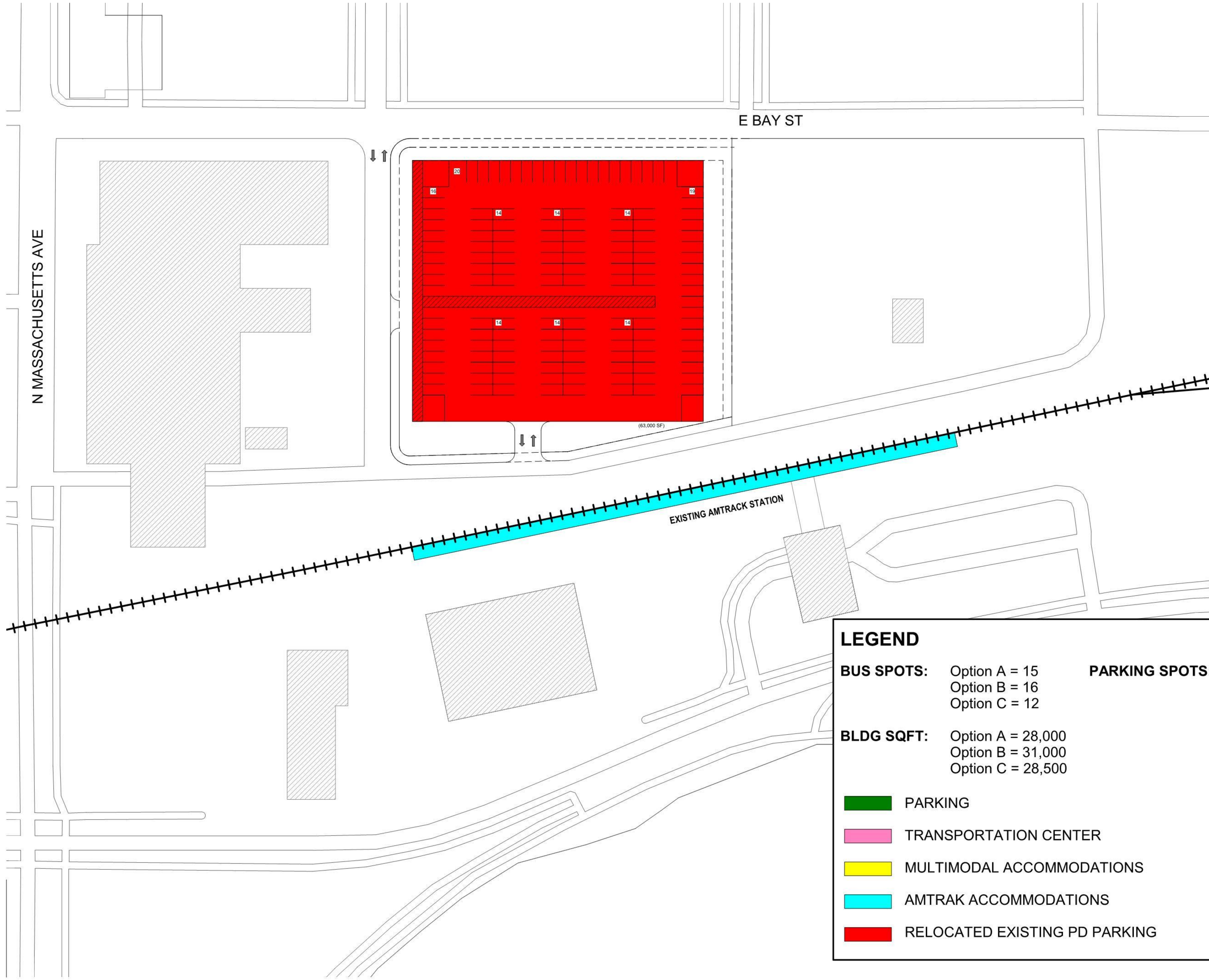
4. SUN PATH



5. ACCESS TO SITE



6. BUS ROUTE & STATIONS



LEGEND

BUS SPOTS:
Option A = 15
Option B = 16
Option C = 12

BLDG SQFT:
Option A = 28,000
Option B = 31,000
Option C = 28,500

PARKING SPOTS:
Level 1 = 139 (PD)
Level 3 = 81
Level 4 = 168
Level 5 = 168
Level 6 = 168
Level 7 = 168
Total = 892

- PARKING
- TRANSPORTATION CENTER
- MULTIMODAL ACCOMMODATIONS
- AMTRAK ACCOMMODATIONS
- RELOCATED EXISTING PD PARKING

1 **LEVEL 1 - DOWNTOWN EAST**
1" = 50'-0"

PLAN NORTH

DO NOT SCALE

ATKINS DESIGN TEAM

ARCHITECTURE, INTERIORS
CIVIL, STRUCTURAL, LANDSCAPE
MECHANICAL, PLUMBING, FIRE PROTECTION
ELECTRICAL, FIRE ALARM

SNC·LAVALIN
ATKINS
Member of the SNC-Lavalin Group

11801 Domain Boulevard
Suite 500
Austin TX 78758
Tel: +1 512 327 6840
Fax: +1 512 327 2453
www.atkinsglobal.com

CONSULTANTS

replace with CONSULTANT LOGO

CLIENT

ATKINS - SNC LAVALIN

replace with CLIENT LOGO

PROJECT TITLE

ATK_Arch_2019

ADDRESS

REV.	DATE	DESCRIPTION

PROFESSIONAL SEAL

NOT FOR REGULATORY APPROVAL, PERMITTING, OR CONSTRUCTION.

Clifton Dale Austin, RA: 17150 10-08-18

DRAWING TITLE

LEVEL 1 - DOWNTOWN EAST

SCALE	DESIGNED	DRAWN	CHECKED
As indicated	Designer	Author	Checker

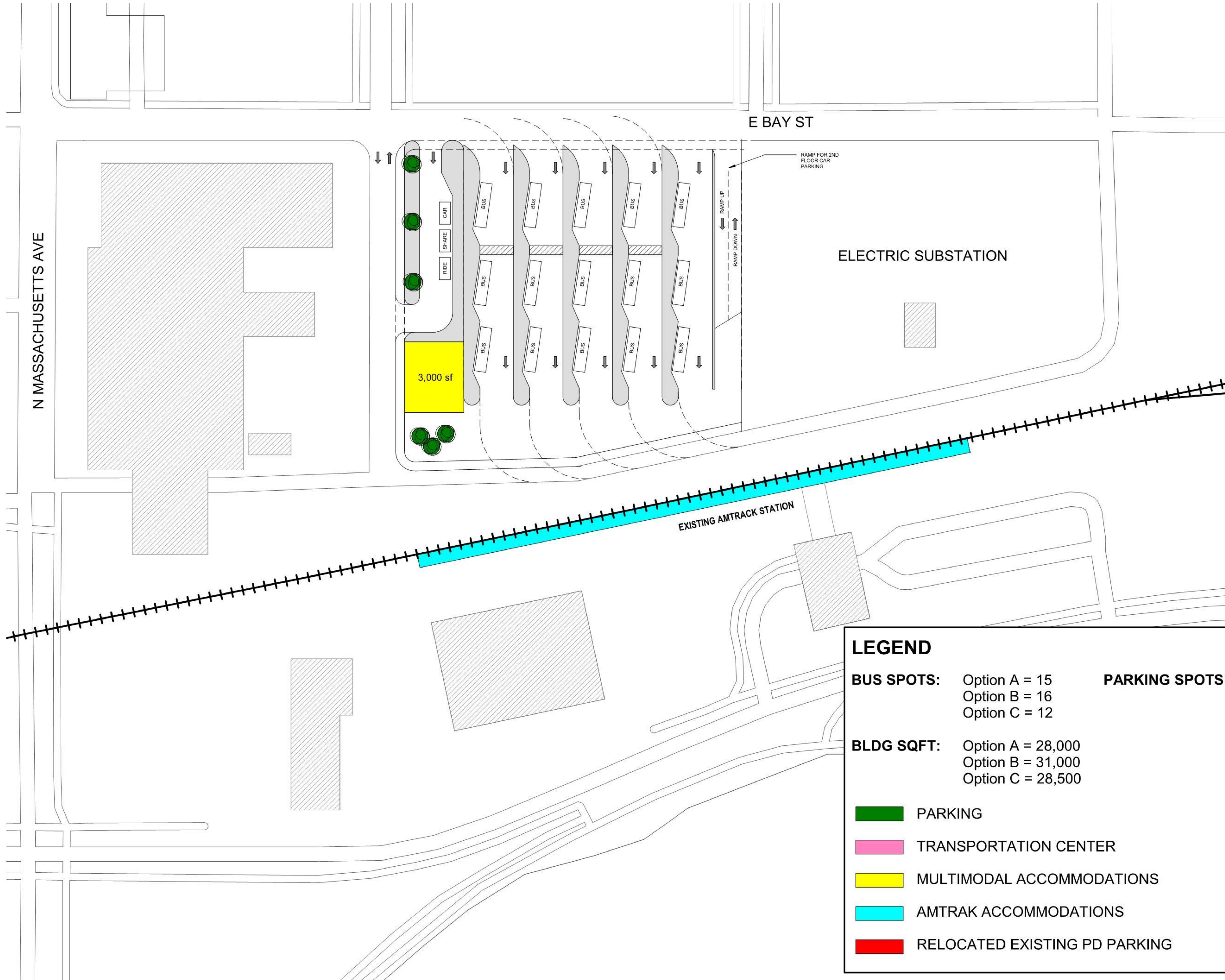
ORIGINAL SHEET SIZE	ISSUE FOR CONSTRUCTION DATE	REVISION NO.
ANSID22X34	DATE	

PROJECT STATUS
STATUS

PROJECT NUMBER
100063464

SHEET NUMBER
A-101

C:\Users\TICU4787\OneDrive Corp\OneDrive - Atkins Ltd\Documents\100063464_LAKELAND INTERMODAL_A19_bim360.1KN8RX.rvt
10/9/2019 9:27:47 AM



LEGEND

BUS SPOTS:
Option A = 15
Option B = 16
Option C = 12

BLDG SQFT:
Option A = 28,000
Option B = 31,000
Option C = 28,500

PARKING SPOTS:
Level 1 = 139 (PD)
Level 3 = 81
Level 4 = 168
Level 5 = 168
Level 6 = 168
Level 7 = 168
Total = 892

- PARKING
- TRANSPORTATION CENTER
- MULTIMODAL ACCOMMODATIONS
- AMTRAK ACCOMMODATIONS
- RELOCATED EXISTING PD PARKING

1 **LEVEL 2 - DOWNTOWN EAST (A)**
1" = 50'-0"

PLAN NORTH

DO NOT SCALE

ATKINS DESIGN TEAM

ARCHITECTURE, INTERIORS
CIVIL, STRUCTURAL, LANDSCAPE
MECHANICAL, PLUMBING, FIRE PROTECTION
ELECTRICAL, FIRE ALARM

SNC·LAVALIN
ATKINS
Member of the SNC-Lavalin Group
11801 Domain Boulevard
Suite 500
Austin TX 78758
Tel: +1 512 327 6840
Fax: +1 512 327 2453
www.atkinsglobal.com

CONSULTANTS

replace with CONSULTANT LOGO

CLIENT

ATKINS - SNC LAVALIN

replace with CLIENT LOGO

PROJECT TITLE

ATK_Arch_2019

ADDRESS

REV.	DATE	DESCRIPTION

PROFESSIONAL SEAL

NOT FOR REGULATORY APPROVAL, PERMITTING, OR CONSTRUCTION.

Clifton Dale Austin, RA: 17150 10-08-18

DRAWING TITLE

LEVEL 2 - DOWNTOWN EAST (A)

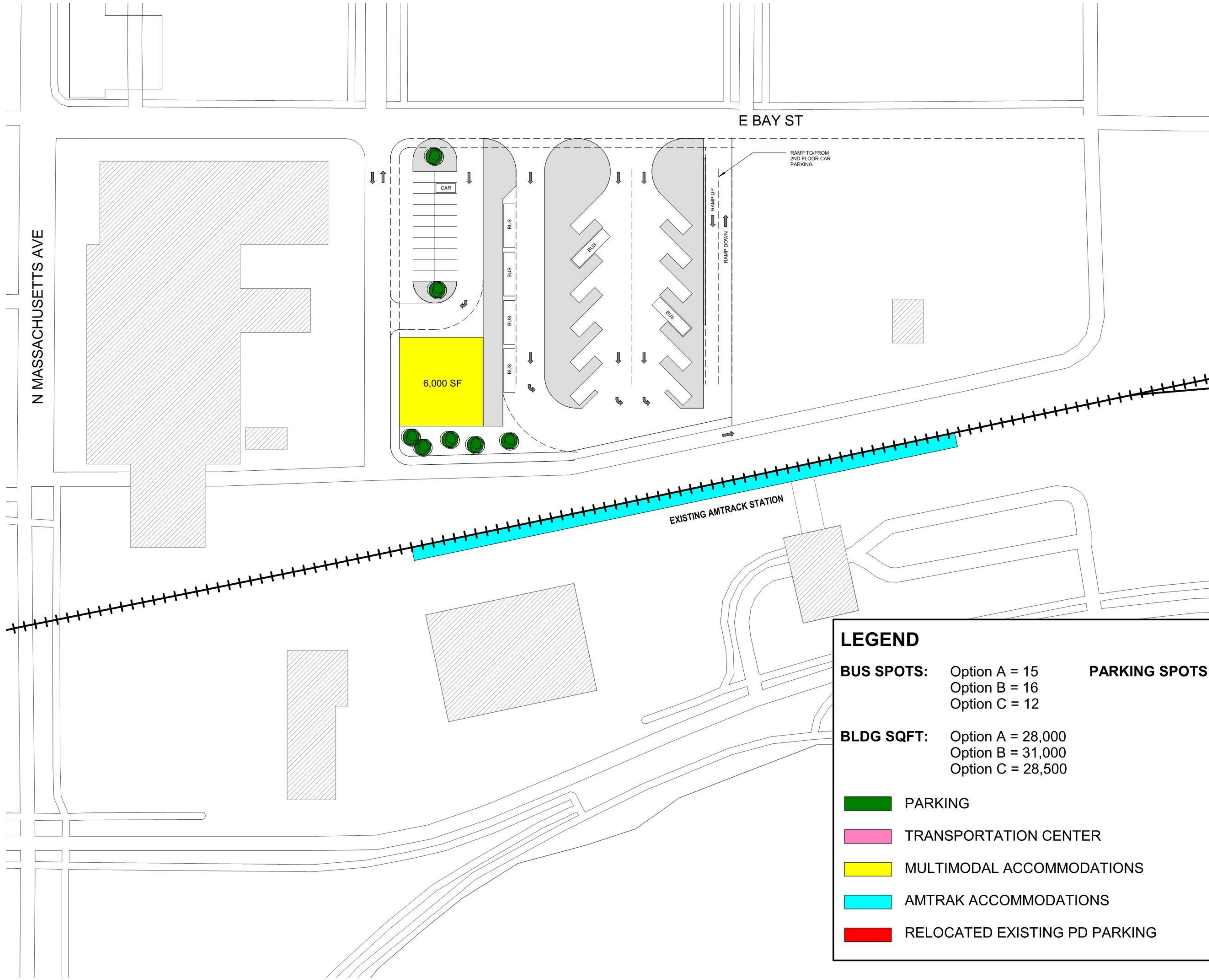
SCALE	DESIGNED	DRAWN	CHECKED
As indicated	Designer	Author	Checker

ORIGINAL SHEET SIZE	ISSUE FOR CONSTRUCTION DATE	REVISION NO.
ANSID22X34	DATE	

PROJECT STATUS
STATUS

PROJECT NUMBER 100063464
SHEET NUMBER **A-102.A**

C:\Users\TICU4787\OneDrive Corp\OneDrive - Atkins Ltd\Documents\100063464_LAKELAND INTERMODAL_A19_bim360.1KN8RX.rvt
10/9/2019 9:27:48 AM



LEGEND

BUS SPOTS:
- Option A = 15
- Option B = 16
- Option C = 12

BLDG SQFT:
- Option A = 28,000
- Option B = 31,000
- Option C = 28,500

PARKING SPOTS:
- Level 1 = 139 (PD)
- Level 3 = 81
- Level 4 = 168
- Level 5 = 168
- Level 6 = 168
- Level 7 = 168
- **Total = 892**

- PARKING
- TRANSPORTATION CENTER
- MULTIMODAL ACCOMMODATIONS
- AMTRAK ACCOMMODATIONS
- RELOCATED EXISTING PD PARKING

1 **LEVEL 2 - DOWNTOWN EAST (B)**
1" = 50'-0"

PLAN NORTH

DO NOT SCALE

ATKINS DESIGN TEAM

ARCHITECTURE, INTERIORS
CIVIL, STRUCTURAL, LANDSCAPE
MECHANICAL, PLUMBING, FIRE PROTECTION
ELECTRICAL, FIRE ALARM

SNC·LAVALIN ATKINS
Member of the SNC-Lavalin Group

11801 Domain Boulevard
Suite 500
Austin TX 78758
Tel: +1 512 327 6840
Fax: +1 512 327 2453
www.atkinsglobal.com

CONSULTANTS

replace with CONSULTANT LOGO

CLIENT

ATKINS - SNC LAVALIN

replace with CLIENT LOGO

PROJECT TITLE

ATK_Arch_2019

ADDRESS

REV.	DATE	DESCRIPTION

PROFESSIONAL SEAL

NOT FOR REGULATORY APPROVAL, PERMITTING, OR CONSTRUCTION.

Clifton Dale Austin, RA: 17150 10-08-18

DRAWING TITLE

LEVEL 2 - DOWNTOWN EAST (B)

SCALE	DESIGNED	DRAWN	CHECKED
As indicated	Designer	Author	Checker

ORIGINAL SHEET SIZE	ISSUE FOR CONSTRUCTION DATE	REVISION NO.
ANSID22X34	DATE	

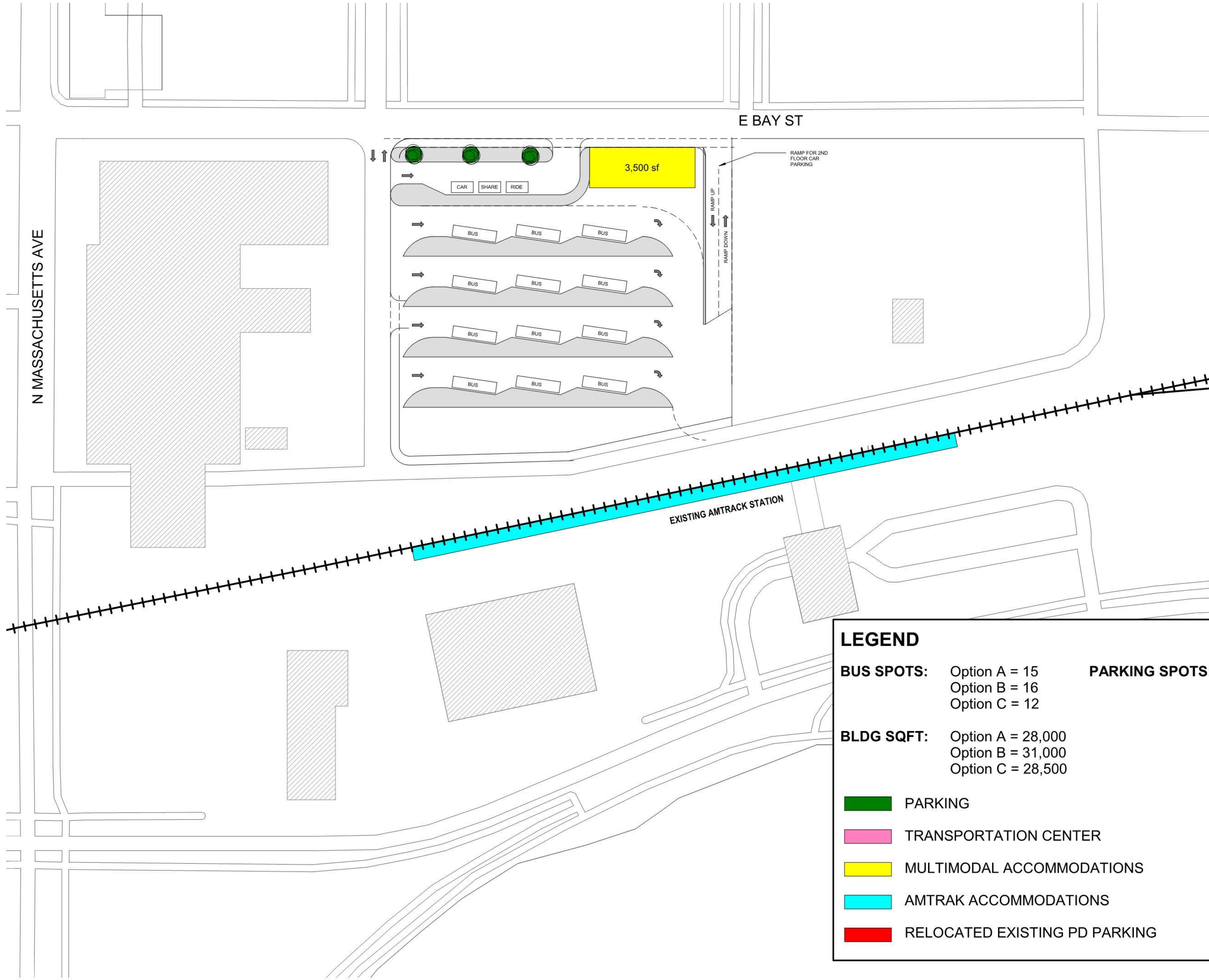
PROJECT STATUS

STATUS

PROJECT NUMBER 100063464

SHEET NUMBER **A-102.B**

C:\Users\TICU4787\OneDrive Corp\OneDrive - Atkins Ltd\Documents\100063464_LAKELAND INTERMODAL_A19_bim360.1KN8RX.rvt
10/9/2019 9:27:49 AM



LEGEND

BUS SPOTS:
Option A = 15
Option B = 16
Option C = 12

BLDG SQFT:
Option A = 28,000
Option B = 31,000
Option C = 28,500

PARKING SPOTS:

Level 1	= 139 (PD)
Level 3	= 81
Level 4	= 168
Level 5	= 168
Level 6	= 168
Level 7	= 168
Total	**= 892**

- PARKING
- TRANSPORTATION CENTER
- MULTIMODAL ACCOMMODATIONS
- AMTRAK ACCOMMODATIONS
- RELOCATED EXISTING PD PARKING

1 **LEVEL 2 - DOWNTOWN EAST (C)**
1" = 50'-0"

PLAN NORTH

DO NOT SCALE

ATKINS DESIGN TEAM

ARCHITECTURE, INTERIORS
CIVIL, STRUCTURAL, LANDSCAPE
MECHANICAL, PLUMBING, FIRE PROTECTION
ELECTRICAL, FIRE ALARM

SNC·LAVALIN
ATKINS
Member of the SNC-Lavalin Group

11801 Domain Boulevard
Suite 500
Austin TX 78758
Tel: +1 512 327 6840
Fax:+1 512 327 2453
www.atkinsglobal.com

CONSULTANTS
replace with CONSULTANT LOGO

CLIENT
ATKINS - SNC LAVALIN
replace with CLIENT LOGO

PROJECT TITLE
ATK_Arch_2019

ADDRESS

REV.	DATE	DESCRIPTION

PROFESSIONAL SEAL
NOT FOR REGULATORY APPROVAL, PERMITTING, OR CONSTRUCTION.
Clifton Dale Austin, RA: 17150 10-08-18

DRAWING TITLE
LEVEL 2 - DOWNTOWN EAST (C)

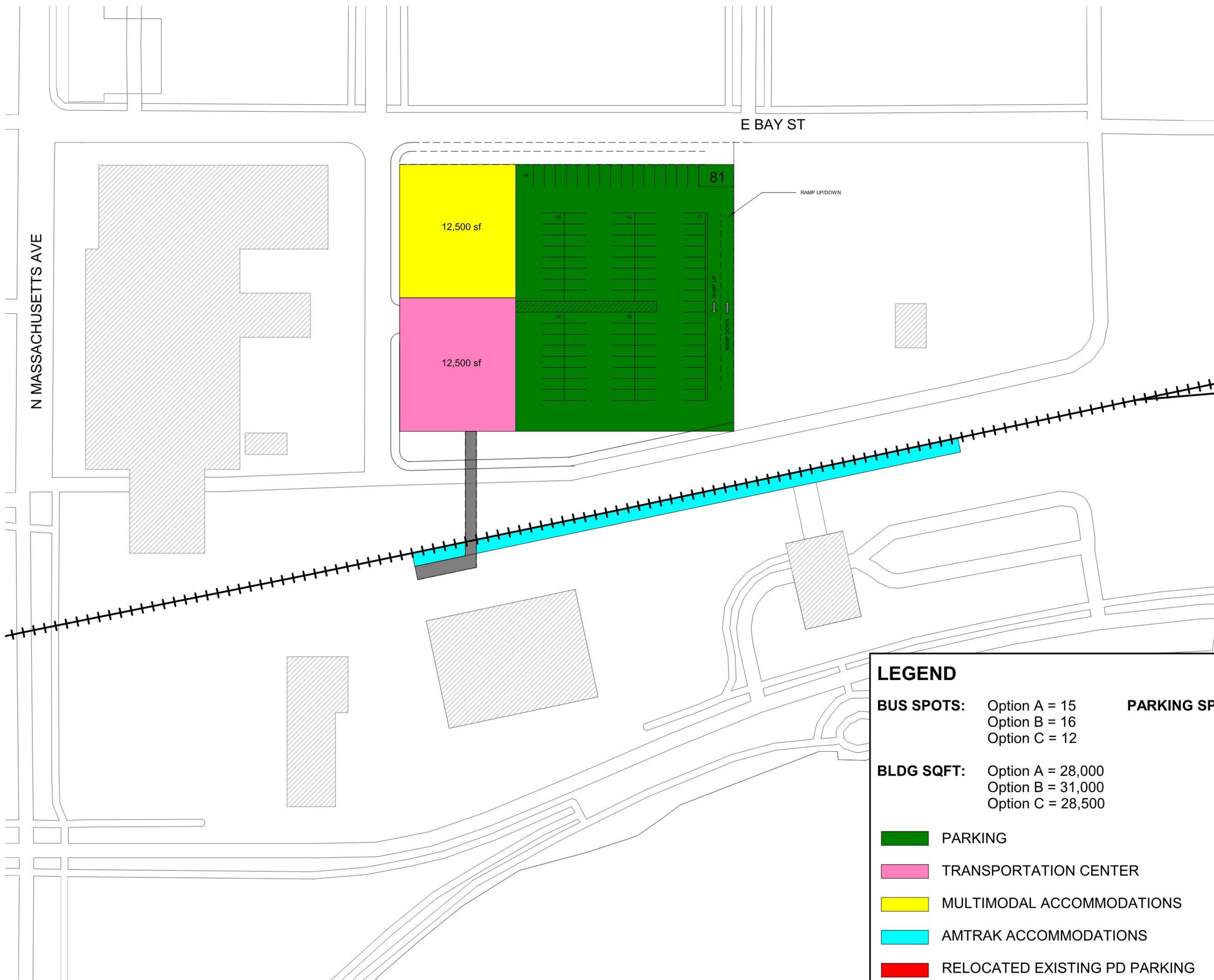
SCALE	DESIGNED	DRAWN	CHECKED
As indicated	Designer	Author	Checker

ORIGINAL SHEET SIZE	ISSUE FOR CONSTRUCTION DATE	REVISION NO.
ANSID22X34	DATE	

PROJECT STATUS
STATUS

PROJECT NUMBER 100063464
SHEET NUMBER **A-102.C**

C:\Users\TICU4787\OneDrive Corp\OneDrive - Atkins Ltd\Documents\100063464_LAKELAND INTERMODAL_A19_bim360.1KN8RX.rvt
10/9/2019 9:27:50 AM



LEGEND

BUS SPOTS: Option A = 15
Option B = 16
Option C = 12

BLDG SQFT: Option A = 28,000
Option B = 31,000
Option C = 28,500

PARKING SPOTS:

Level 1	= 139 (PD)
Level 3	= 81
Level 4	= 168
Level 5	= 168
Level 6	= 168
Level 7	= 168
Total	**= 892**

- PARKING
- TRANSPORTATION CENTER
- MULTIMODAL ACCOMMODATIONS
- AMTRAK ACCOMMODATIONS
- RELOCATED EXISTING PD PARKING

1 LEVEL 3 - DOWNTOWN EAST

1" = 50'-0"

PLAN NORTH

DO NOT SCALE

ATKINS DESIGN TEAM

ARCHITECTURE, INTERIORS
CIVIL, STRUCTURAL, LANDSCAPE
MECHANICAL, PLUMBING, FIRE PROTECTION
ELECTRICAL, FIRE ALARM

SNC·LAVALIN
ATKINS
Member of the SNC-Lavalin Group

11801 Domain Boulevard
Suite 500
Austin TX 78758

Tel: +1 512 327 6840
Fax: +1 512 327 2453
www.atkinsglobal.com

CONSULTANTS

replace with CONSULTANT LOGO

CLIENT

ATKINS - SNC LAVALIN

replace with CLIENT LOGO

PROJECT TITLE

ATK_Arch_2019

ADDRESS

REV.	DATE	DESCRIPTION

PROFESSIONAL SEAL

NOT FOR REGULATORY APPROVAL, PERMITTING, OR CONSTRUCTION.

Clifton Dale Austin, RA: 17150 10-08-18

DRAWING TITLE

LEVEL 3 - DOWNTOWN EAST

SCALE	DESIGNED	DRAWN	CHECKED
As indicated	Designer	Author	Checker

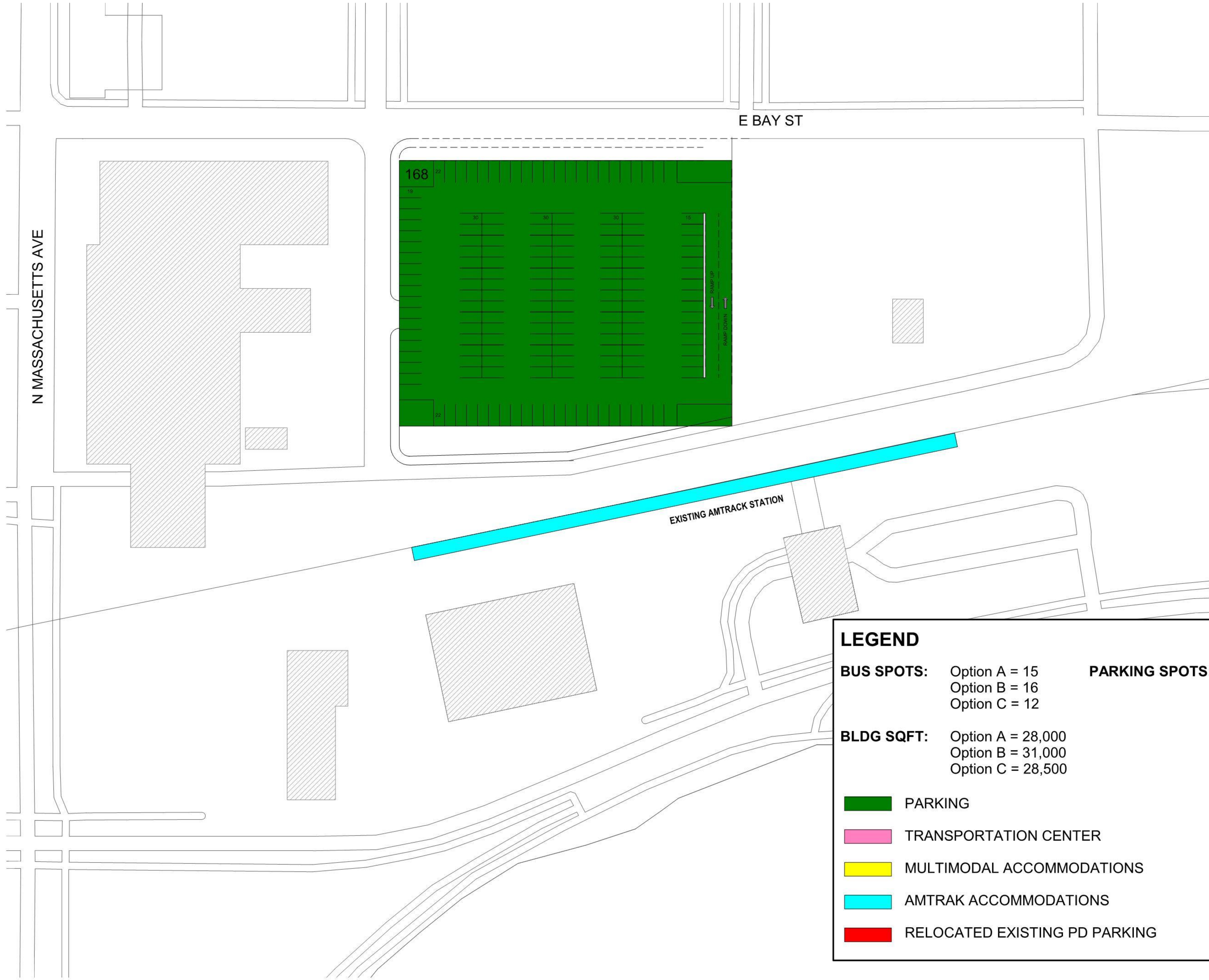
ORIGINAL SHEET SIZE	ISSUE FOR CONSTRUCTION DATE	REVISION NO.
ANSID22X34	DATE	

PROJECT STATUS
STATUS

PROJECT NUMBER
100063464

SHEET NUMBER
A-103

C:\Users\TICU4787\OneDrive Corp\OneDrive - Atkins Ltd\Documents\100063464_LAKELAND INTERMODAL_A19_bim360.1KN8RX.rvt
10/9/2019 9:27:50 AM



LEGEND

BUS SPOTS:
Option A = 15
Option B = 16
Option C = 12

BLDG SQFT:
Option A = 28,000
Option B = 31,000
Option C = 28,500

PARKING SPOTS:
Level 1 = 139 (PD)
Level 3 = 81
Level 4 = 168
Level 5 = 168
Level 6 = 168
Level 7 = 168
Total = 892

- PARKING
- TRANSPORTATION CENTER
- MULTIMODAL ACCOMMODATIONS
- AMTRAK ACCOMMODATIONS
- RELOCATED EXISTING PD PARKING

1 **LEVEL 4 - DOWNTOWN EAST**
1" = 50'-0"

PLAN NORTH

DO NOT SCALE

ATKINS DESIGN TEAM

ARCHITECTURE, INTERIORS
CIVIL, STRUCTURAL, LANDSCAPE
MECHANICAL, PLUMBING, FIRE PROTECTION
ELECTRICAL, FIRE ALARM

SNC·LAVALIN
ATKINS
Member of the SNC-Lavalin Group

11801 Domain Boulevard
Suite 500
Austin TX 78758
Tel: +1 512 327 6840
Fax: +1 512 327 2453
www.atkinsglobal.com

CONSULTANTS
replace with CONSULTANT LOGO

CLIENT
ATKINS - SNC LAVALIN
replace with CLIENT LOGO

PROJECT TITLE
ATK_Arch_2019

ADDRESS

REV.	DATE	DESCRIPTION

PROFESSIONAL SEAL
NOT FOR REGULATORY APPROVAL, PERMITTING, OR CONSTRUCTION.
Clifton Dale Austin, RA: 17150 10-08-18

DRAWING TITLE
LEVEL 4 - DOWNTOWN EAST

SCALE	DESIGNED	DRAWN	CHECKED
As indicated	Designer	Author	Checker

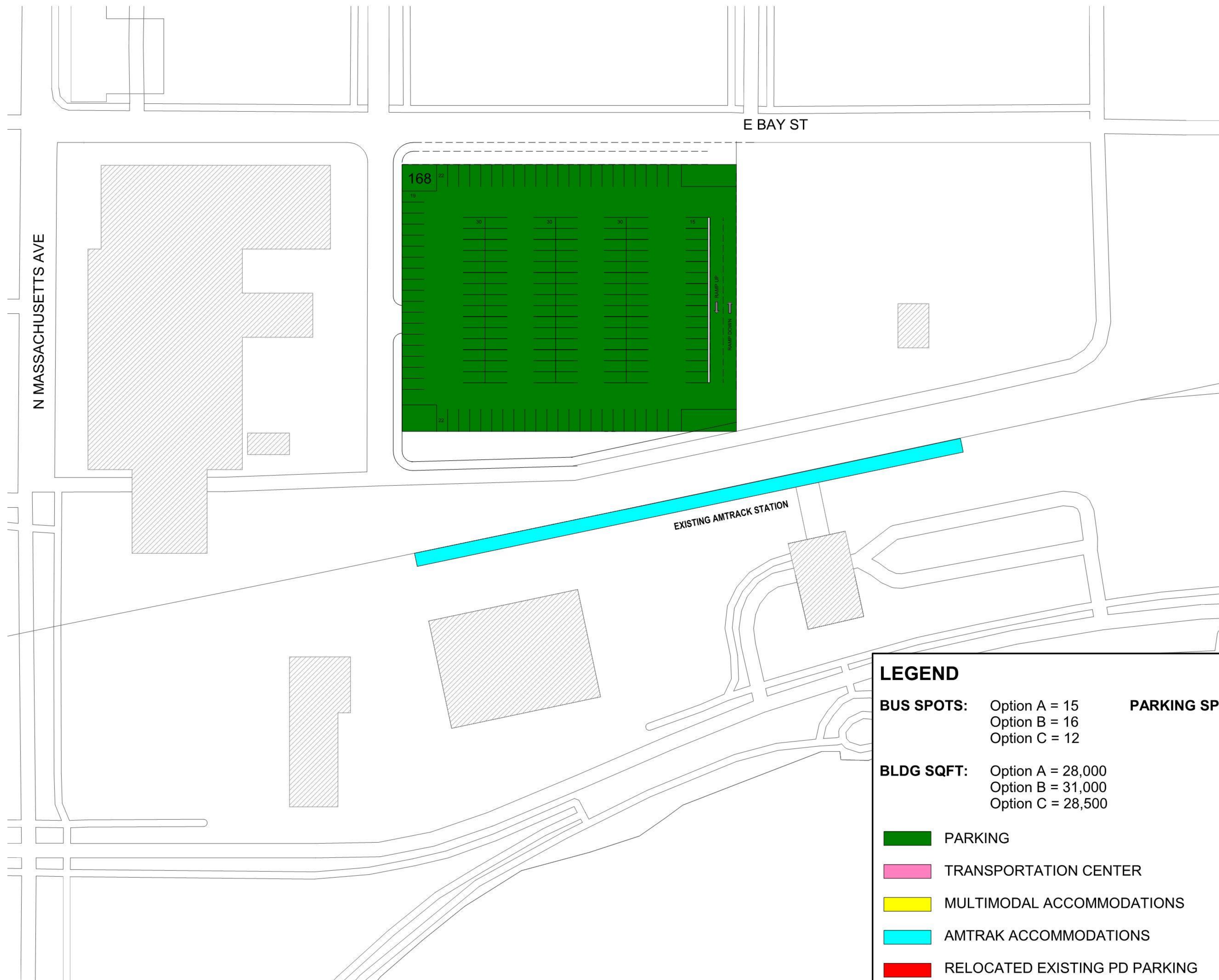
ORIGINAL SHEET SIZE	ISSUE FOR CONSTRUCTION DATE	REVISION NO.
ANSID22X34	DATE	

PROJECT STATUS
STATUS

PROJECT NUMBER
100063464

SHEET NUMBER
A-104

C:\Users\TICU4787\OneDrive Corp\OneDrive - Atkins Ltd\Documents\100063464_LAKELAND INTERMODAL_A19_bim360.1KN8RX.rvt
10/9/2019 9:27:51 AM



LEGEND

BUS SPOTS: Option A = 15
Option B = 16
Option C = 12

BLDG SQFT: Option A = 28,000
Option B = 31,000
Option C = 28,500

PARKING SPOTS:
Level 1 = 139 (PD)
Level 3 = 81
Level 4 = 168
Level 5 = 168
Level 6 = 168
Level 7 = 168
Total = 892

- PARKING
- TRANSPORTATION CENTER
- MULTIMODAL ACCOMMODATIONS
- AMTRAK ACCOMMODATIONS
- RELOCATED EXISTING PD PARKING

1 **LEVEL 5 - DOWNTOWN EAST**
1" = 50'-0"

PLAN NORTH

DO NOT SCALE

ATKINS DESIGN TEAM

ARCHITECTURE, INTERIORS
CIVIL, STRUCTURAL, LANDSCAPE
MECHANICAL, PLUMBING, FIRE PROTECTION
ELECTRICAL, FIRE ALARM

SNC·LAVALIN
ATKINS
Member of the SNC-Lavalin Group

11801 Domain Boulevard
Suite 500
Austin TX 78758

Tel: +1 512 327 6840
Fax: +1 512 327 2453
www.atkinsglobal.com

CONSULTANTS

replace with CONSULTANT LOGO

CLIENT

ATKINS - SNC LAVALIN

replace with CLIENT LOGO

PROJECT TITLE

ATK_Arch_2019

ADDRESS

REV.	DATE	DESCRIPTION

PROFESSIONAL SEAL

NOT FOR REGULATORY APPROVAL, PERMITTING, OR CONSTRUCTION.

Clifton Dale Austin, RA: 17150 10-08-18

DRAWING TITLE

LEVEL 5 - DOWNTOWN EAST

SCALE	DESIGNED	DRAWN	CHECKED
As indicated	Designer	Author	Checker

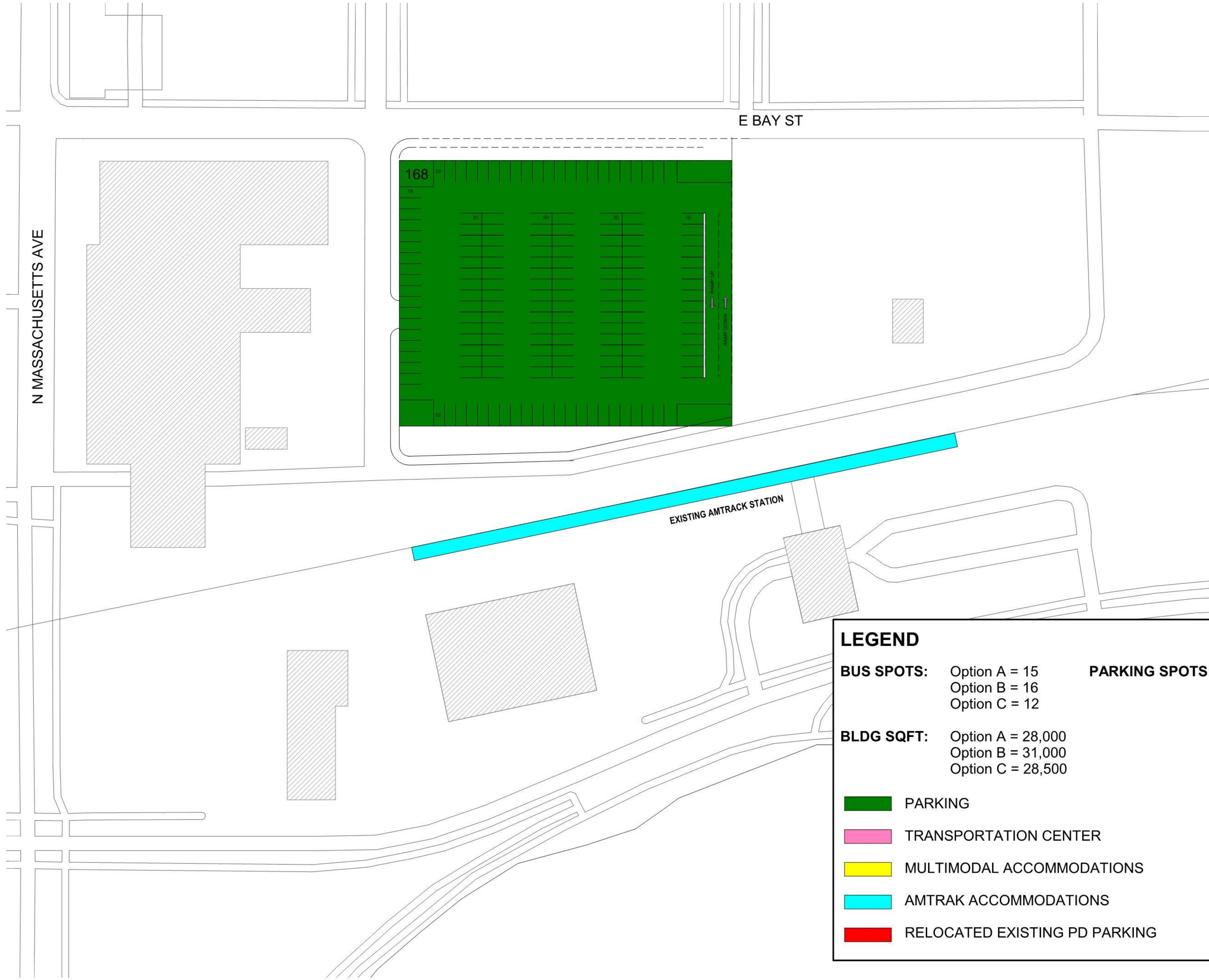
ORIGINAL SHEET SIZE	ISSUE FOR CONSTRUCTION DATE	REVISION NO.
ANSID22X34	DATE	

PROJECT STATUS
STATUS

PROJECT NUMBER
100063464

SHEET NUMBER
A-105

C:\Users\TICU4787\OneDrive Corp\OneDrive - Atkins Ltd\Documents\100063464_LAKELAND INTERMODAL_A19_bim360.1KN8RX.rvt
10/9/2019 9:27:51 AM



LEGEND

BUS SPOTS:		PARKING SPOTS:	
	Option A = 15		Level 1 = 139 (PD)
	Option B = 16		Level 3 = 81
	Option C = 12		Level 4 = 168
			Level 5 = 168
BLDG SQFT:	Option A = 28,000		Level 6 = 168
	Option B = 31,000		Level 7 = 168
	Option C = 28,500		**Total = 892**

- PARKING
- TRANSPORTATION CENTER
- MULTIMODAL ACCOMMODATIONS
- AMTRAK ACCOMMODATIONS
- RELOCATED EXISTING PD PARKING

1 **LEVEL 6 - DOWNTOWN EAST**
1" = 50'-0"

PLAN NORTH

DO NOT SCALE

ATKINS DESIGN TEAM

ARCHITECTURE, INTERIORS
CIVIL, STRUCTURAL, LANDSCAPE
MECHANICAL, PLUMBING, FIRE PROTECTION
ELECTRICAL, FIRE ALARM

SNC·LAVALIN ATKINS
Member of the SNC-Lavalin Group
11801 Domain Boulevard
Suite 500
Austin TX 78758
Tel: +1 512 327 6840
Fax: +1 512 327 2453
www.atkinsglobal.com

CONSULTANTS

replace with CONSULTANT LOGO

CLIENT

ATKINS - SNC LAVALIN

replace with CLIENT LOGO

PROJECT TITLE

ATK_Arch_2019

ADDRESS

REV.	DATE	DESCRIPTION

PROFESSIONAL SEAL

NOT FOR REGULATORY APPROVAL, PERMITTING, OR CONSTRUCTION.

Clifton Dale Austin, RA: 17150 10-08-18

DRAWING TITLE

LEVEL 6 - DOWNTOWN EAST

SCALE	DESIGNED	DRAWN	CHECKED
As indicated	Designer	Author	Checker

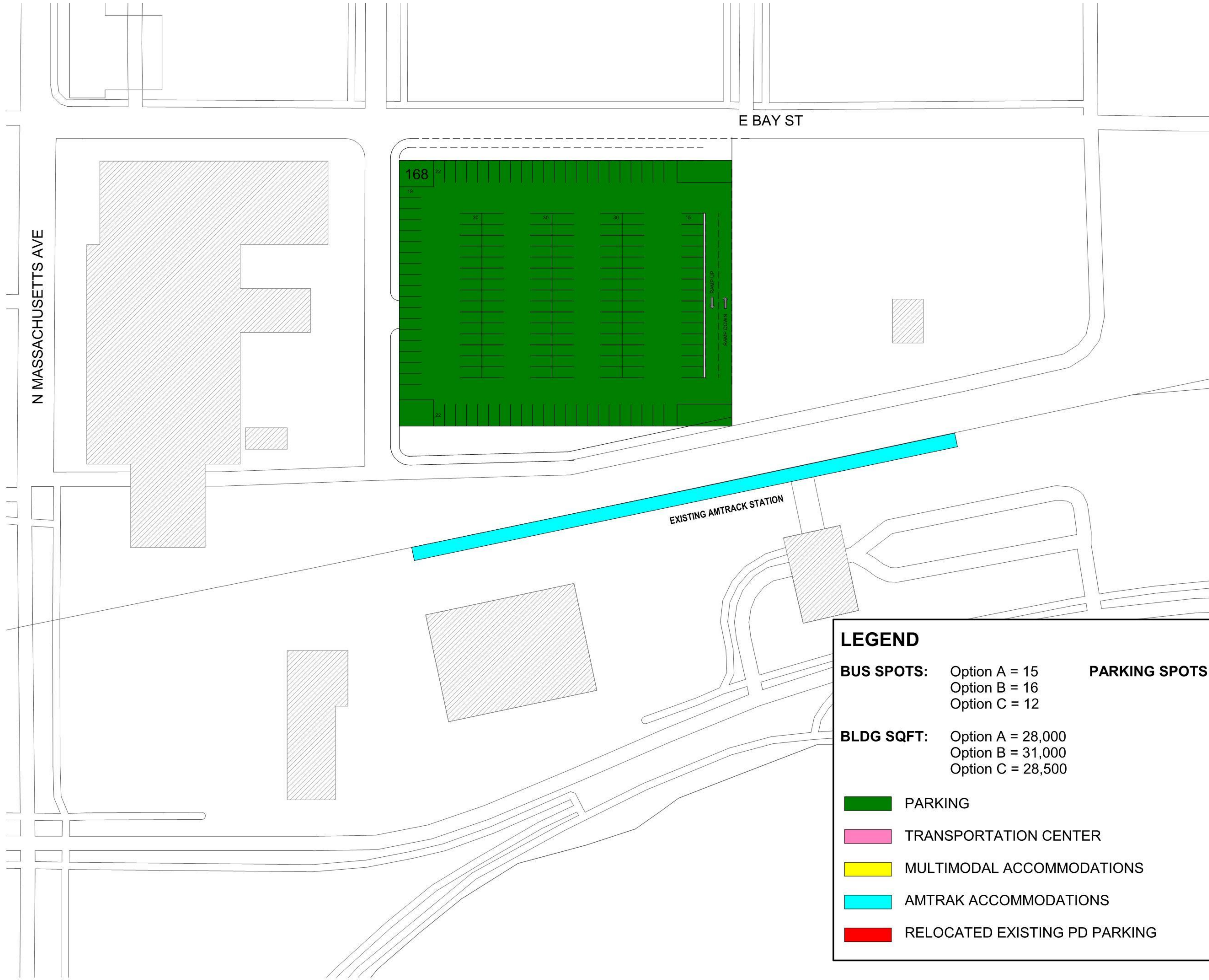
ORIGINAL SHEET SIZE	ISSUE FOR CONSTRUCTION DATE	REVISION NO.
ANSID22X34	DATE	

PROJECT STATUS: STATUS

PROJECT NUMBER: 100063464

SHEET NUMBER: **A-106**

C:\Users\TICU4787\OneDrive Corp\OneDrive - Atkins Ltd\Documents\100063464_LAKELAND INTERMODAL_A19_bim360.1KN8RX.rvt
10/9/2019 9:27:52 AM



LEGEND

BUS SPOTS: Option A = 15
Option B = 16
Option C = 12

BLDG SQFT: Option A = 28,000
Option B = 31,000
Option C = 28,500

PARKING SPOTS:

Level 1	= 139 (PD)
Level 3	= 81
Level 4	= 168
Level 5	= 168
Level 6	= 168
Level 7	= 168
Total	**= 892**

- PARKING
- TRANSPORTATION CENTER
- MULTIMODAL ACCOMMODATIONS
- AMTRAK ACCOMMODATIONS
- RELOCATED EXISTING PD PARKING

1 **LEVEL 7 - DOWNTOWN EAST**
1" = 50'-0"

PLAN NORTH

DO NOT SCALE

ATKINS DESIGN TEAM

ARCHITECTURE, INTERIORS
CIVIL, STRUCTURAL, LANDSCAPE
MECHANICAL, PLUMBING, FIRE PROTECTION
ELECTRICAL, FIRE ALARM

SNC·LAVALIN ATKINS Member of the SNC-Lavalin Group

11801 Domain Boulevard
Suite 500
Austin TX 78758
Tel: +1 512 327 6840
Fax: +1 512 327 2453
www.atkinsglobal.com

CONSULTANTS

replace with CONSULTANT LOGO

CLIENT

ATKINS - SNC LAVALIN

replace with CLIENT LOGO

PROJECT TITLE

ATK_Arch_2019

ADDRESS

REV.	DATE	DESCRIPTION

PROFESSIONAL SEAL

NOT FOR REGULATORY APPROVAL, PERMITTING, OR CONSTRUCTION.

Clifton Dale Austin, RA: 17150 10-08-18

DRAWING TITLE

LEVEL 7 - DOWNTOWN EAST

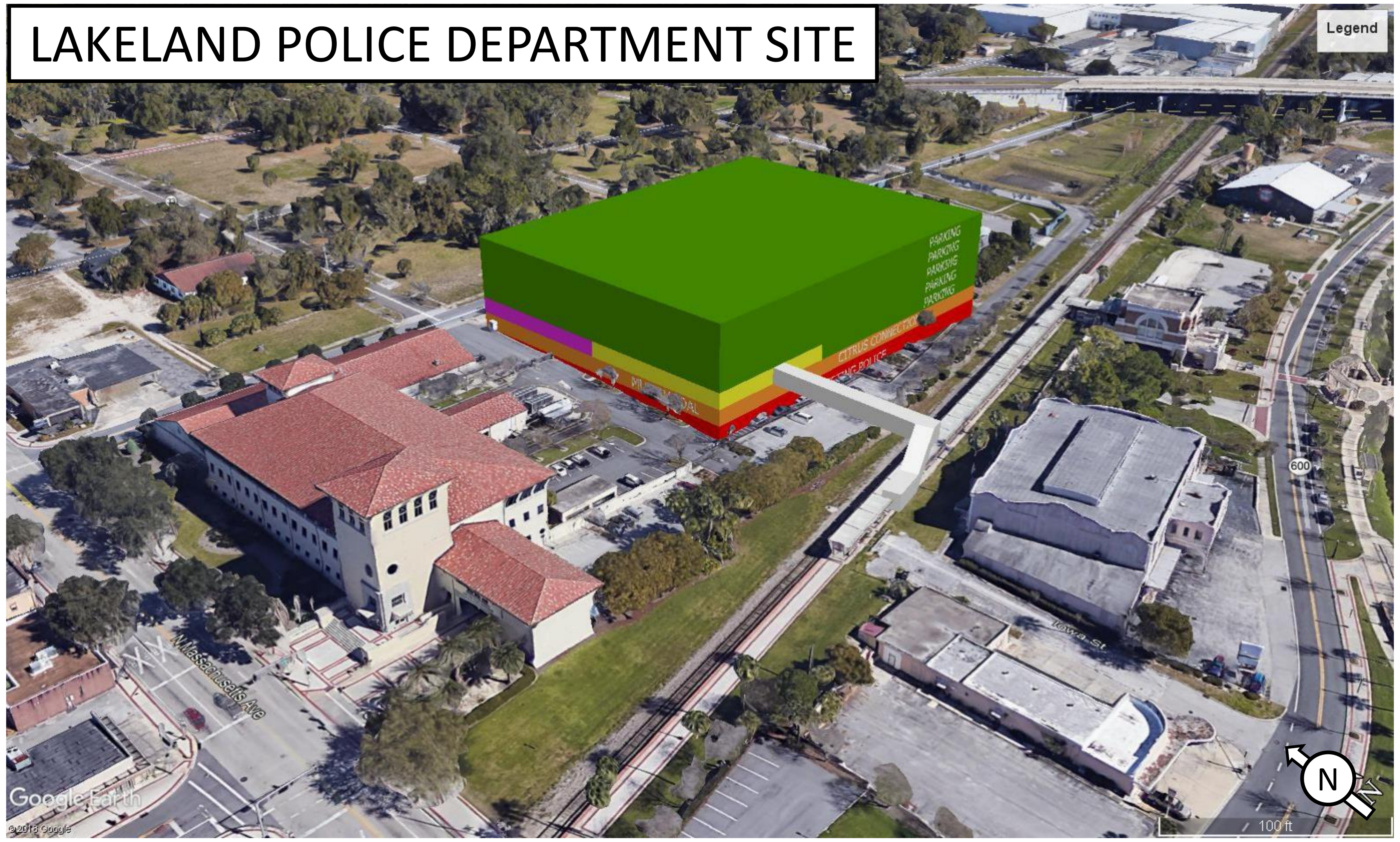
SCALE	DESIGNED	DRAWN	CHECKED
As indicated	Designer	Author	Checker

ORIGINAL SHEET SIZE	ISSUE FOR CONSTRUCTION DATE	REVISION NO.
ANSID22X34	DATE	

PROJECT STATUS
STATUS

PROJECT NUMBER 100063464
SHEET NUMBER **A-107**

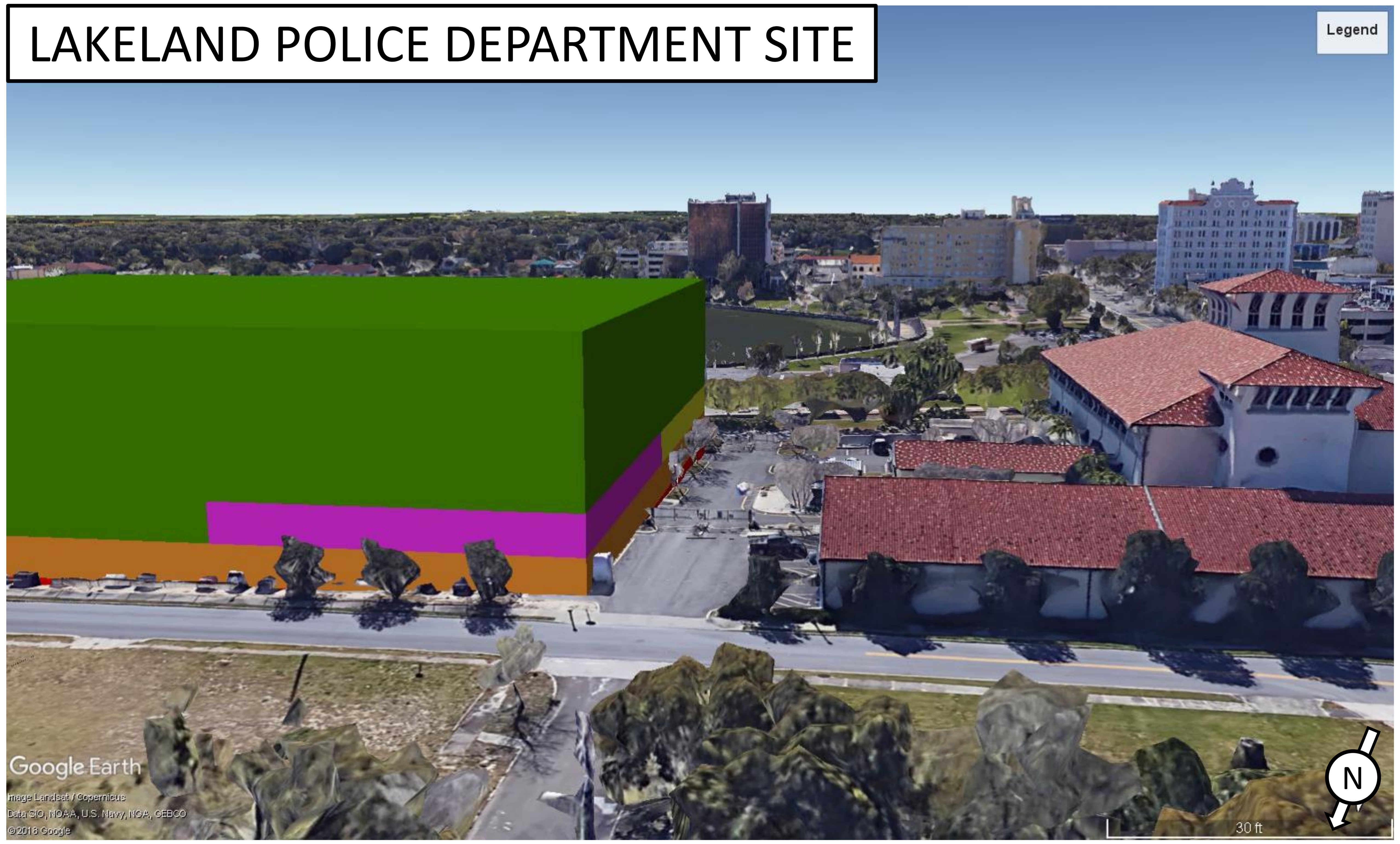
C:\Users\TICU4787\OneDrive Corp\OneDrive - Atkins Ltd\Documents\100063464_LAKELAND INTERMODAL_A19_bim360.1KN8RX.rvt
10/9/2019 9:27:52 AM


LAKELAND POLICE DEPARTMENT SITE
Legend
Google Earth
100 ft


LAKELAND POLICE DEPARTMENT SITE
Legend
PARKING
PARKING
PARKING
PARKING
PARKING
Google Earth


LAKELAND POLICE DEPARTMENT SITE
Legend
Google Earth
100 ft


LAKELAND POLICE DEPARTMENT SITE
Google Earth

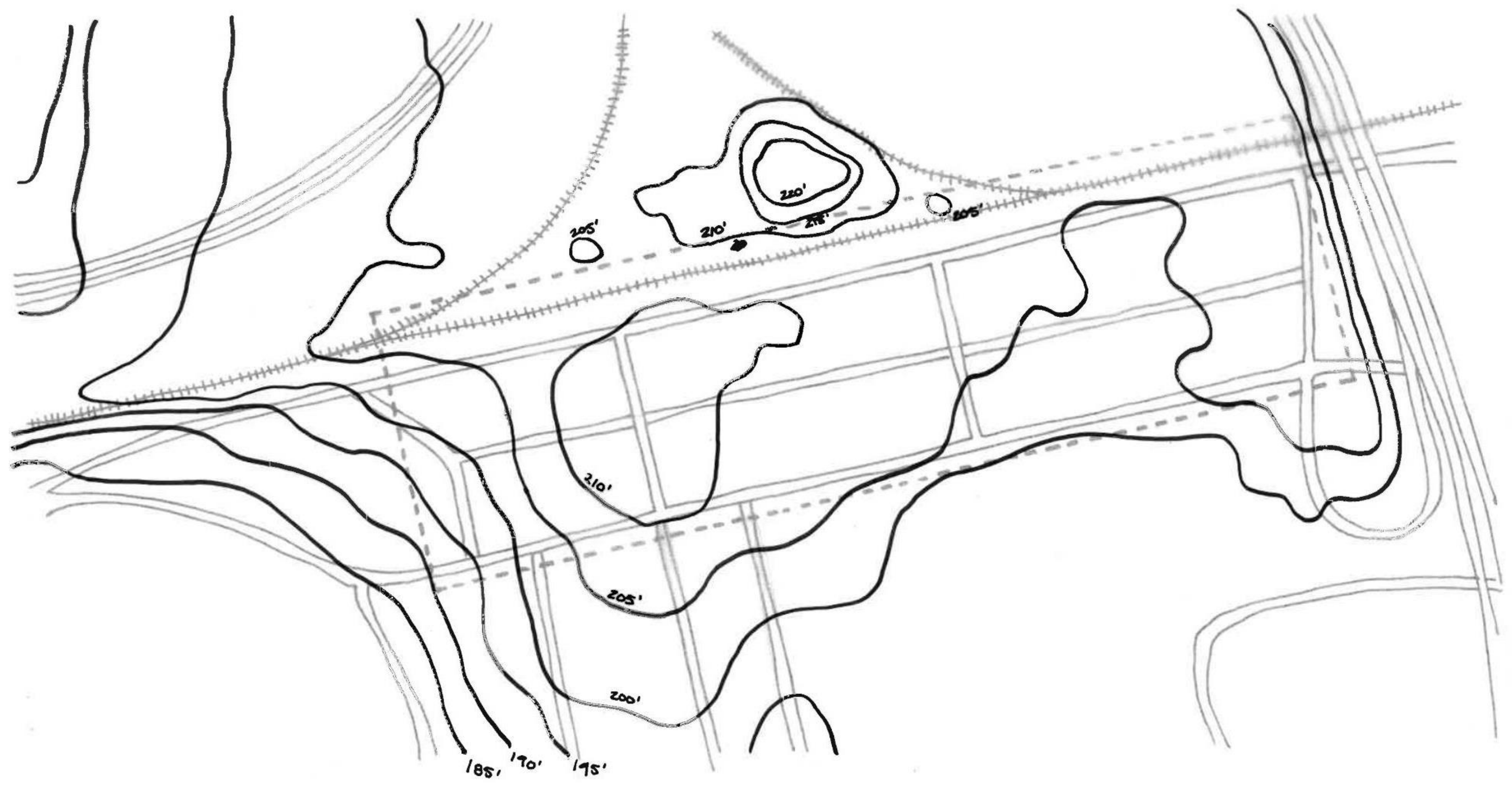

LAKELAND POLICE DEPARTMENT SITE
Legend
Google Earth
30 ft
N


LAKELAND POLICE DEPARTMENT SITE
Legend
Google Earth
40 ft
N

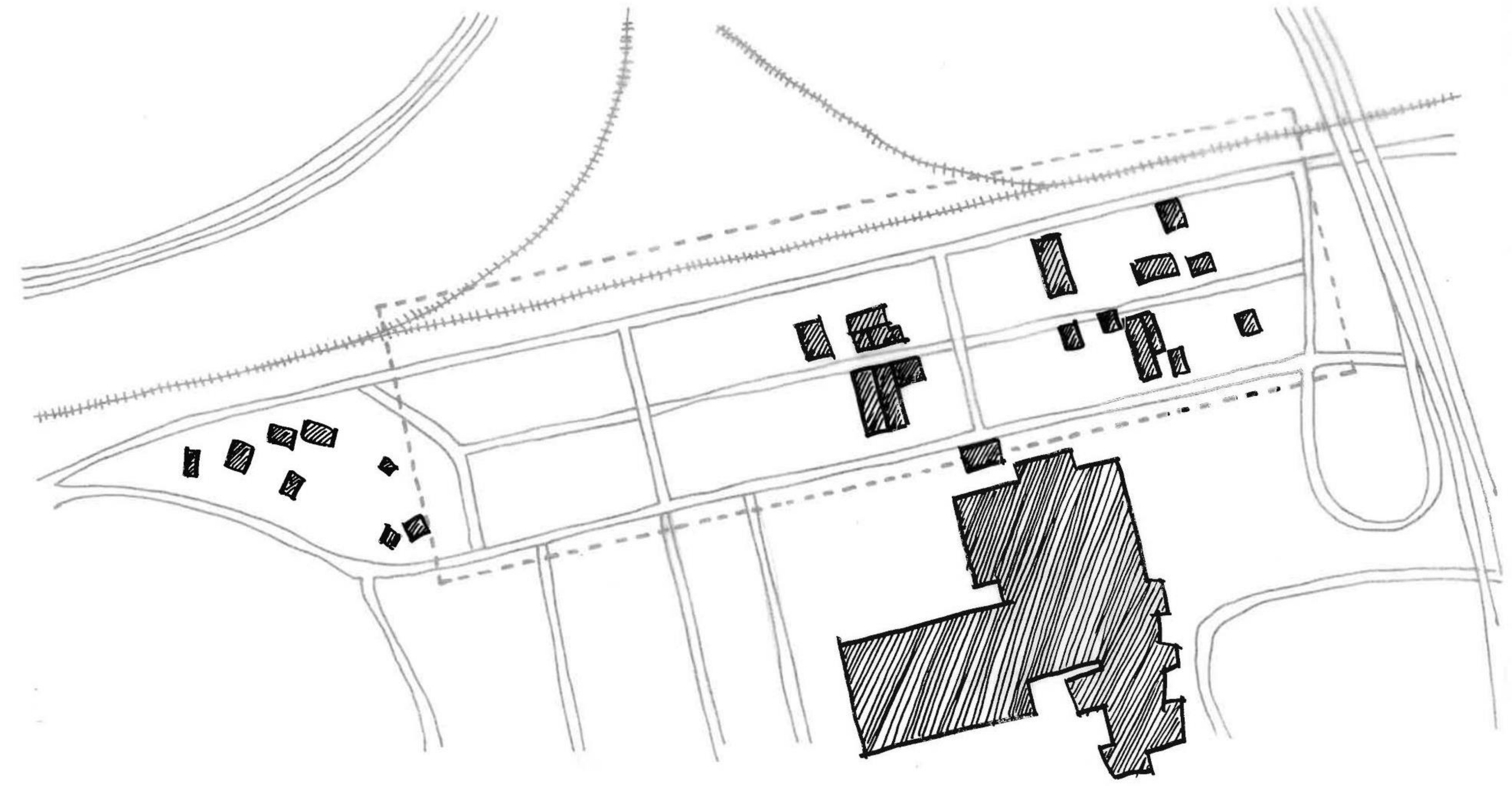

LAKELAND POLICE DEPARTMENT SITE
Legend
40 ft
N


LAKELAND POLICE DEPARTMENT SITE
Legend
PARKING
PARKING
PARKING
PARKING
Google Earth
30 ft
N

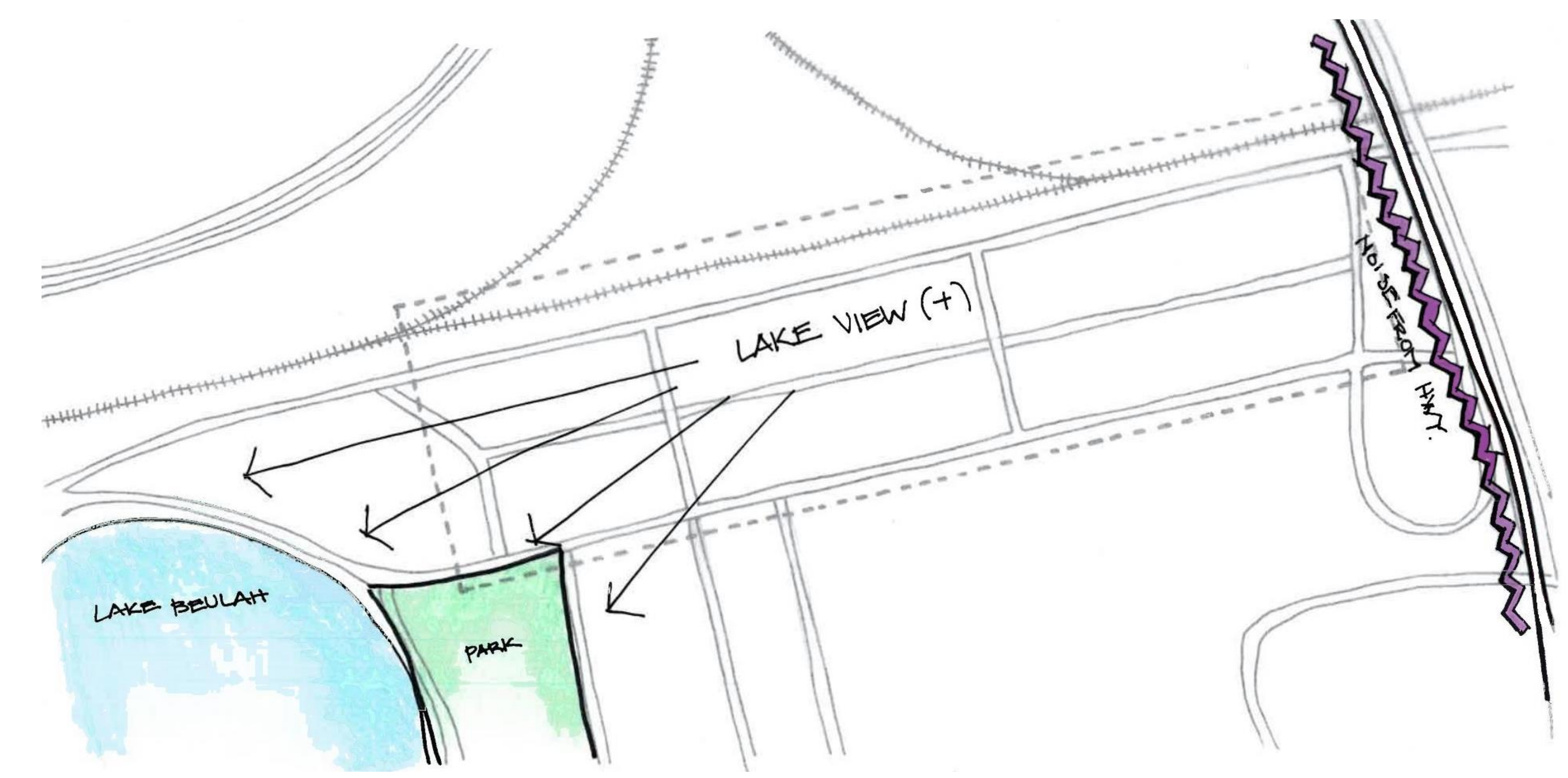
SITE ANALYSIS (RP Funding Site)



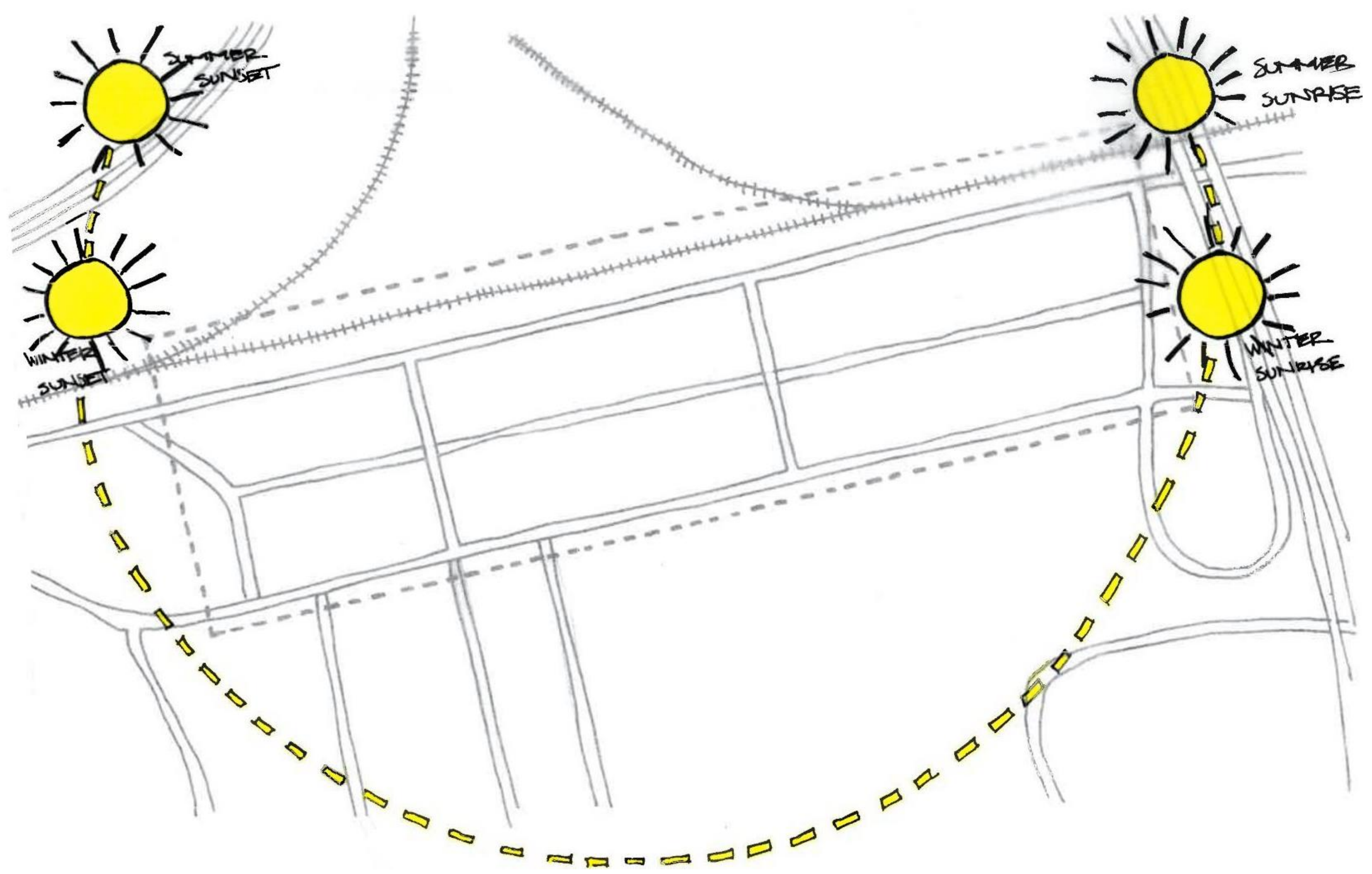
1. SITE CONTOURS



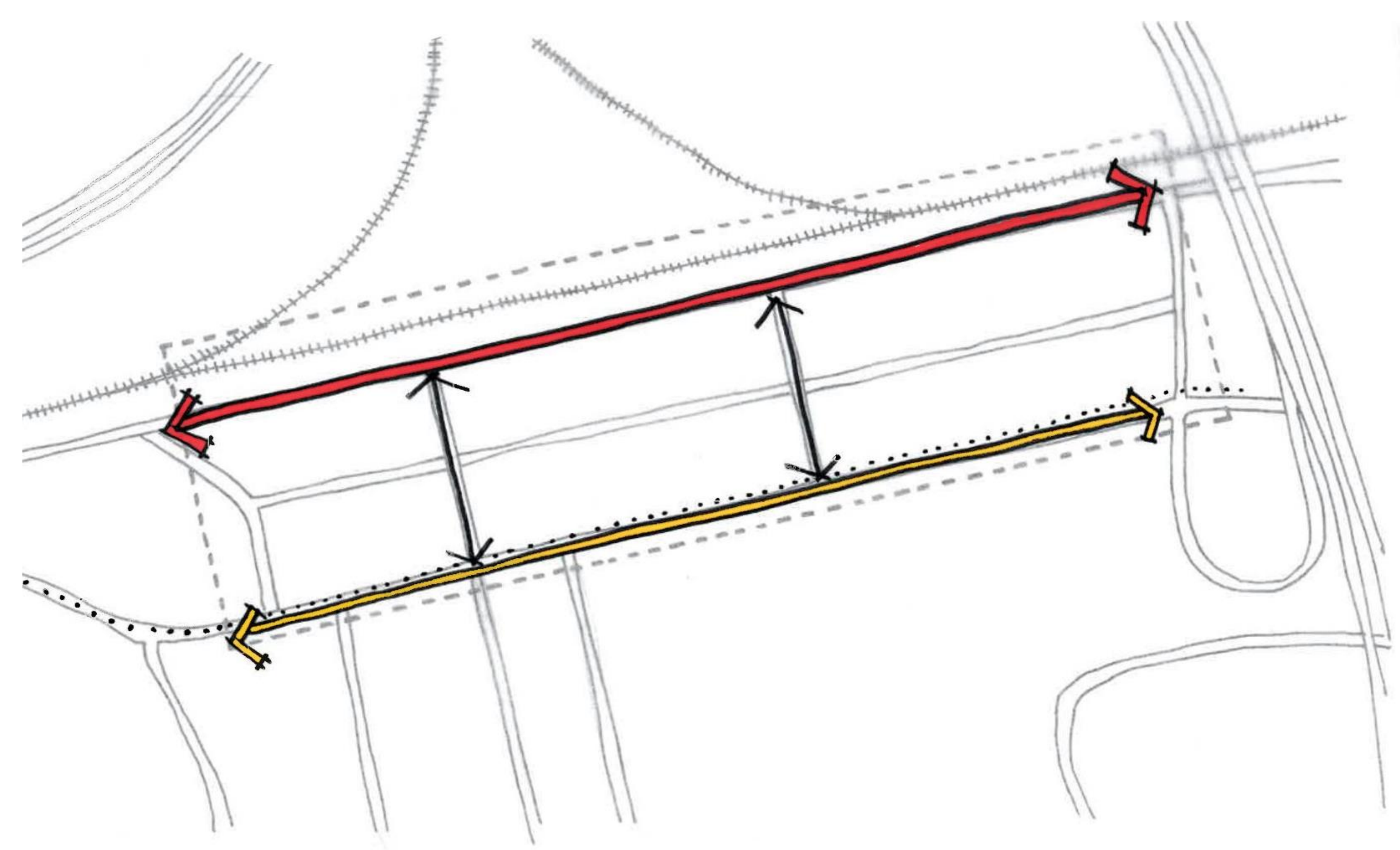
2. FIGURE-GROUND



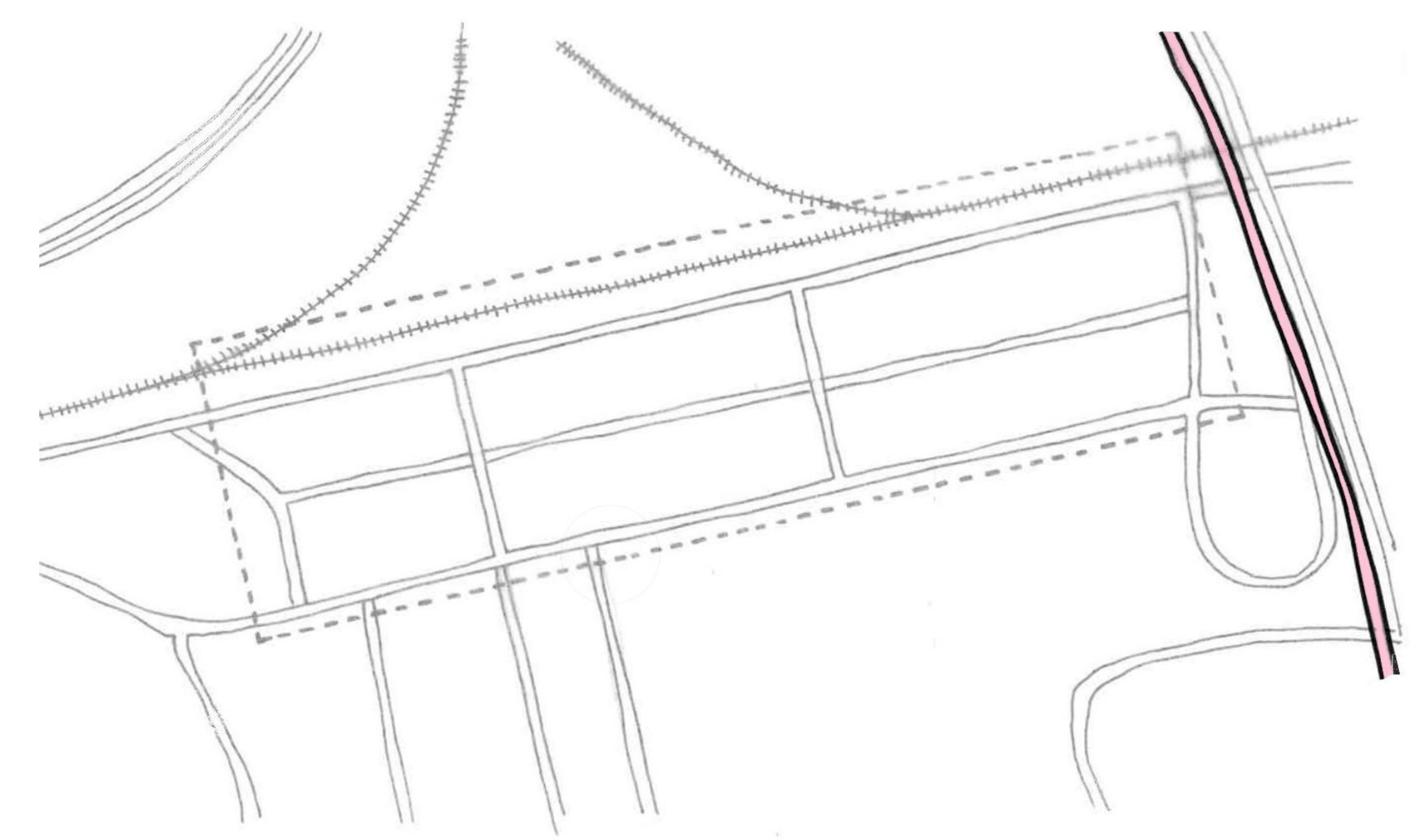
3. VIEWS & NOISE



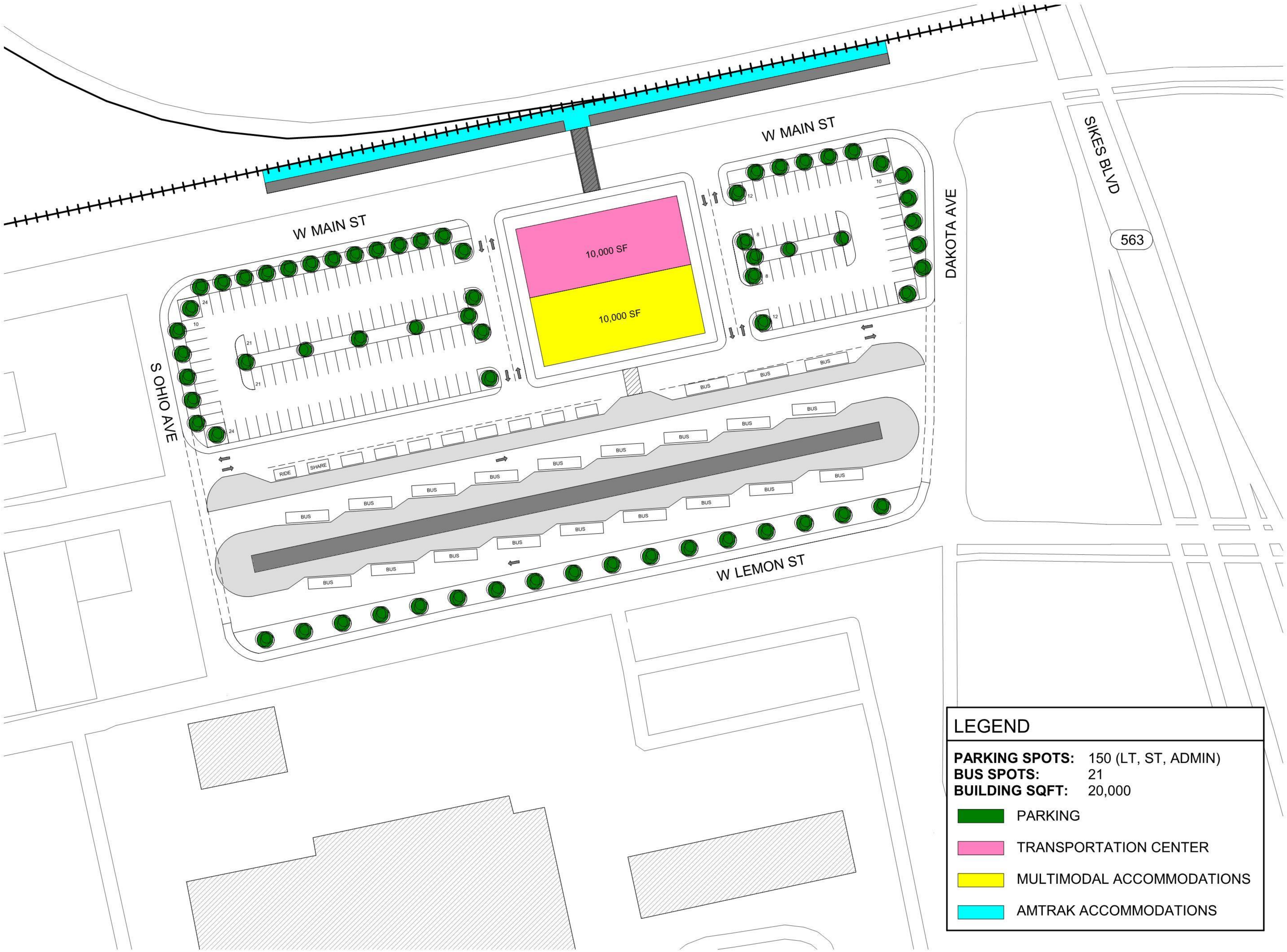
4. SUN PATH



5. SITE ACCESS



6. BUS ROUTE & STATIONS



LEGEND

PARKING SPOTS: 150 (LT, ST, ADMIN)
BUS SPOTS: 21
BUILDING SQFT: 20,000

- PARKING
- TRANSPORTATION CENTER
- MULTIMODAL ACCOMMODATIONS
- AMTRAK ACCOMMODATIONS

1 **LEVEL 1 - DOWNTOWN WEST (A)**
1" = 50'-0"

PLAN NORTH

DO NOT SCALE

ATKINS DESIGN TEAM

ARCHITECTURE, INTERIORS
CIVIL, STRUCTURAL, LANDSCAPE
MECHANICAL, PLUMBING, FIRE PROTECTION
ELECTRICAL, FIRE ALARM

SNC·LAVALIN
ATKINS
Member of the SNC-Lavalin Group

11801 Domain Boulevard
Suite 500
Austin TX 78758

Tel: +1 512 327 6840
Fax: +1 512 327 2453
www.atkinsglobal.com

CONSULTANTS

replace with CONSULTANT LOGO

CLIENT

ATKINS - SNC LAVALIN

replace with CLIENT LOGO

PROJECT TITLE

ATK_Arch_2019

ADDRESS

REV.	DATE	DESCRIPTION

PROFESSIONAL SEAL

NOT FOR REGULATORY APPROVAL, PERMITTING, OR CONSTRUCTION.

Clifton Dale Austin, RA: 17150 10-08-18

DRAWING TITLE

LEVEL 1 - DOWNTOWN WEST (A)

SCALE	DESIGNED	DRAWN	CHECKED
As indicated	Designer	Author	Checker

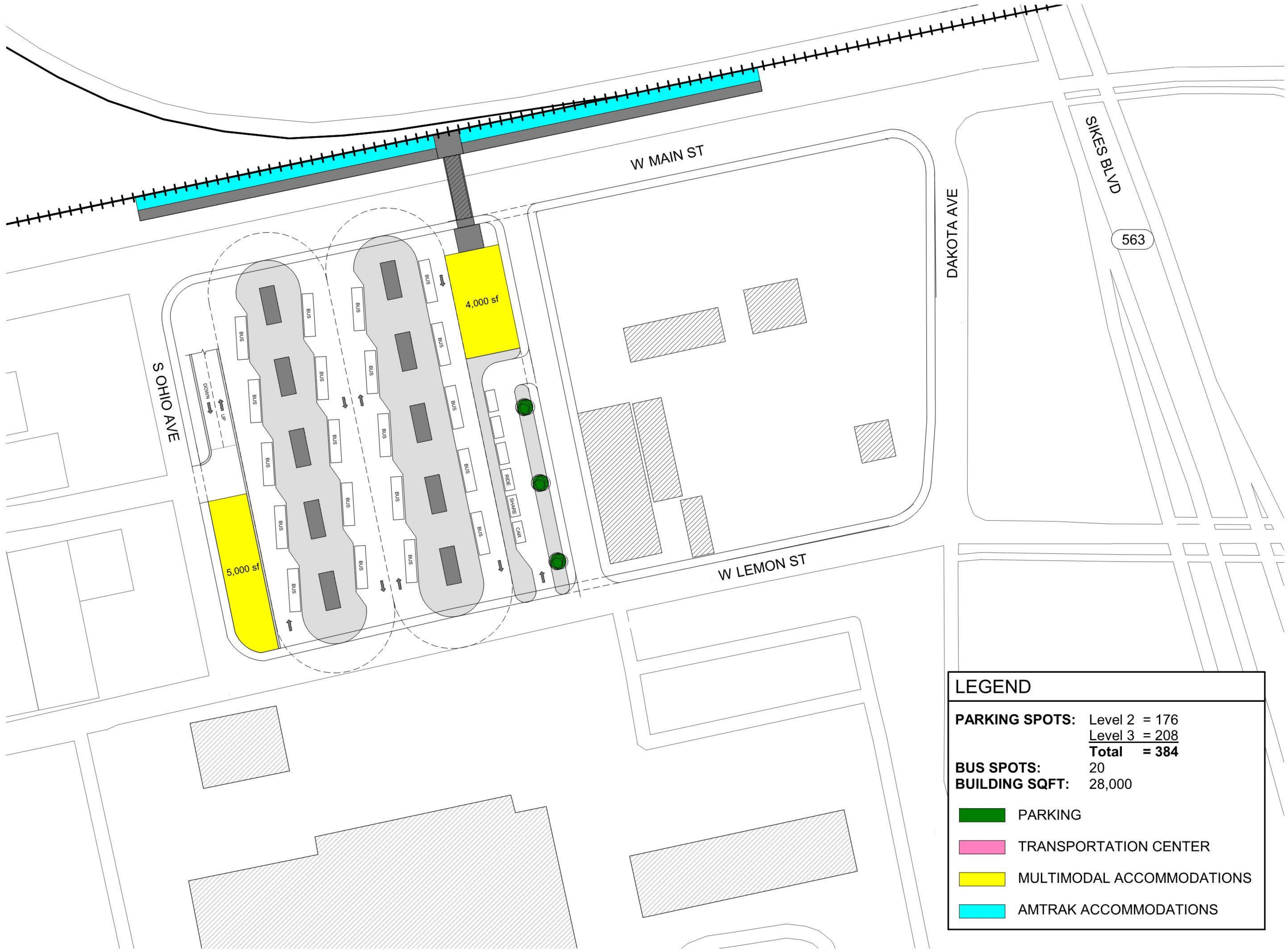
ORIGINAL SHEET SIZE	ISSUE FOR CONSTRUCTION DATE	REVISION NO.
ANSID22X34	DATE	

PROJECT STATUS
STATUS

PROJECT NUMBER 100063464

SHEET NUMBER **A-201.A**

C:\Users\TICU4787\OneDrive Corp\OneDrive - Atkins Ltd\Documents\100063464_LAKELAND INTERMODAL_A19_bim360.1KN8RX.rvt
10/9/2019 9:27:54 AM



1 **LEVEL 1 - DOWNTOWN WEST (B)**
1" = 50'-0"

PLAN NORTH

DO NOT SCALE

ATKINS DESIGN TEAM

ARCHITECTURE, INTERIORS
CIVIL, STRUCTURAL, LANDSCAPE
MECHANICAL, PLUMBING, FIRE PROTECTION
ELECTRICAL, FIRE ALARM

SNC·LAVALIN
ATKINS
Member of the SNC-Lavalin Group

11801 Domain Boulevard
Suite 500
Austin TX 78758

Tel: +1 512 327 6840
Fax: +1 512 327 2453
www.atkinsglobal.com

CONSULTANTS

replace with CONSULTANT LOGO

CLIENT

ATKINS - SNC LAVALIN

replace with CLIENT LOGO

PROJECT TITLE

ATK_Arch_2019

ADDRESS

REV.	DATE	DESCRIPTION

PROFESSIONAL SEAL

NOT FOR REGULATORY APPROVAL, PERMITTING, OR CONSTRUCTION.

Clifton Dale Austin, RA: 17150 10-08-18

DRAWING TITLE

LEVEL 1 - DOWNTOWN WEST (B)

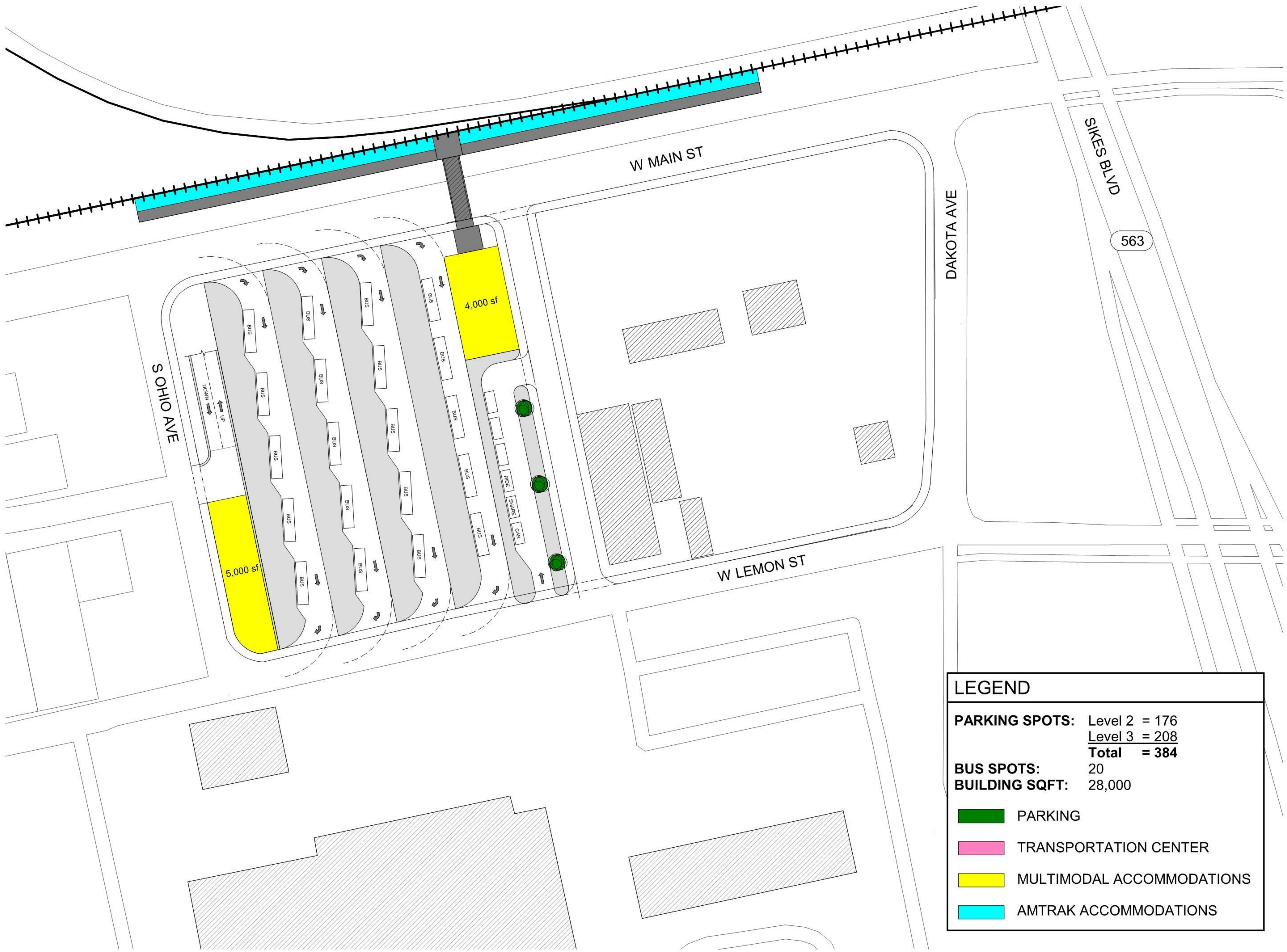
SCALE	DESIGNED	DRAWN	CHECKED
As indicated	Designer	Author	Checker

ORIGINAL SHEET SIZE	ISSUE FOR CONSTRUCTION DATE	REVISION NO.
ANSID22X34	DATE	

PROJECT STATUS
STATUS

PROJECT NUMBER: 100063464
SHEET NUMBER: **A-201.B**

C:\Users\TICU4787\OneDrive Corp\OneDrive - Atkins Ltd\Documents\100063464_LAKELAND INTERMODAL_A19_bim360.1KN8RX.rvt
10/9/2019 9:27:54 AM



LEGEND

PARKING SPOTS: Level 2 = 176
Level 3 = 208
Total = 384
BUS SPOTS: 20
BUILDING SQFT: 28,000

- PARKING
- TRANSPORTATION CENTER
- MULTIMODAL ACCOMMODATIONS
- AMTRAK ACCOMMODATIONS

1 LEVEL 1 - DOWNTOWN WEST (C)
1" = 50'-0"

PLAN NORTH

DO NOT SCALE

ATKINS DESIGN TEAM

ARCHITECTURE, INTERIORS
CIVIL, STRUCTURAL, LANDSCAPE
MECHANICAL, PLUMBING, FIRE PROTECTION
ELECTRICAL, FIRE ALARM

SNC·LAVALIN
ATKINS
Member of the SNC-Lavalin Group

11801 Domain Boulevard
Suite 500
Austin TX 78758

Tel: +1 512 327 6840
Fax:+1 512 327 2453
www.atkinsglobal.com

CONSULTANTS

replace with CONSULTANT LOGO

CLIENT

ATKINS - SNC LAVALIN

replace with CLIENT LOGO

PROJECT TITLE

ATK_Arch_2019

ADDRESS

REV.	DATE	DESCRIPTION

PROFESSIONAL SEAL

NOT FOR REGULATORY APPROVAL, PERMITTING, OR CONSTRUCTION.

Clifton Dale Austin, RA: 17150 10-08-18

DRAWING TITLE

LEVEL 1 - DOWNTOWN WEST (C)

SCALE	DESIGNED	DRAWN	CHECKED
As indicated	Designer	Author	Checker

ORIGINAL SHEET SIZE	ISSUE FOR CONSTRUCTION DATE	REVISION NO.
ANSID22X34	DATE	

PROJECT STATUS
STATUS

PROJECT NUMBER
100063464

SHEET NUMBER
A-201.C

C:\Users\TICU4787\OneDrive Corp\OneDrive - Atkins Ltd\Documents\100063464_LAKELAND INTERMODAL_A19_Mira.Ticu.rvt
10/28/2019 11:03:00 AM

LEGEND

PARKING SPOTS: Level 2 = 176
Level 3 = 208
Total = 384
BUS SPOTS: 20
BUILDING SQFT: 28,000

- PARKING
- TRANSPORTATION CENTER
- MULTIMODAL ACCOMMODATIONS
- AMTRAK ACCOMMODATIONS

1 **LEVEL 2 - DOWNTOWN WEST**
1" = 50'-0"

PLAN NORTH

DO NOT SCALE

ATKINS DESIGN TEAM

ARCHITECTURE, INTERIORS
CIVIL, STRUCTURAL, LANDSCAPE
MECHANICAL, PLUMBING, FIRE PROTECTION
ELECTRICAL, FIRE ALARM

SNC·LAVALIN ATKINS Member of the SNC-Lavalin Group

11801 Domain Boulevard
Suite 500
Austin TX 78758
Tel: +1 512 327 6840
Fax: +1 512 327 2453
www.atkinsglobal.com

CONSULTANTS

replace with CONSULTANT LOGO

CLIENT

ATKINS - SNC LAVALIN

replace with CLIENT LOGO

PROJECT TITLE

ATK_Arch_2019

ADDRESS

REV.	DATE	DESCRIPTION

PROFESSIONAL SEAL

NOT FOR REGULATORY APPROVAL, PERMITTING, OR CONSTRUCTION.

Clifton Dale Austin, RA: 17150 10-08-18

DRAWING TITLE

LEVEL 2 - DOWNTOWN WEST

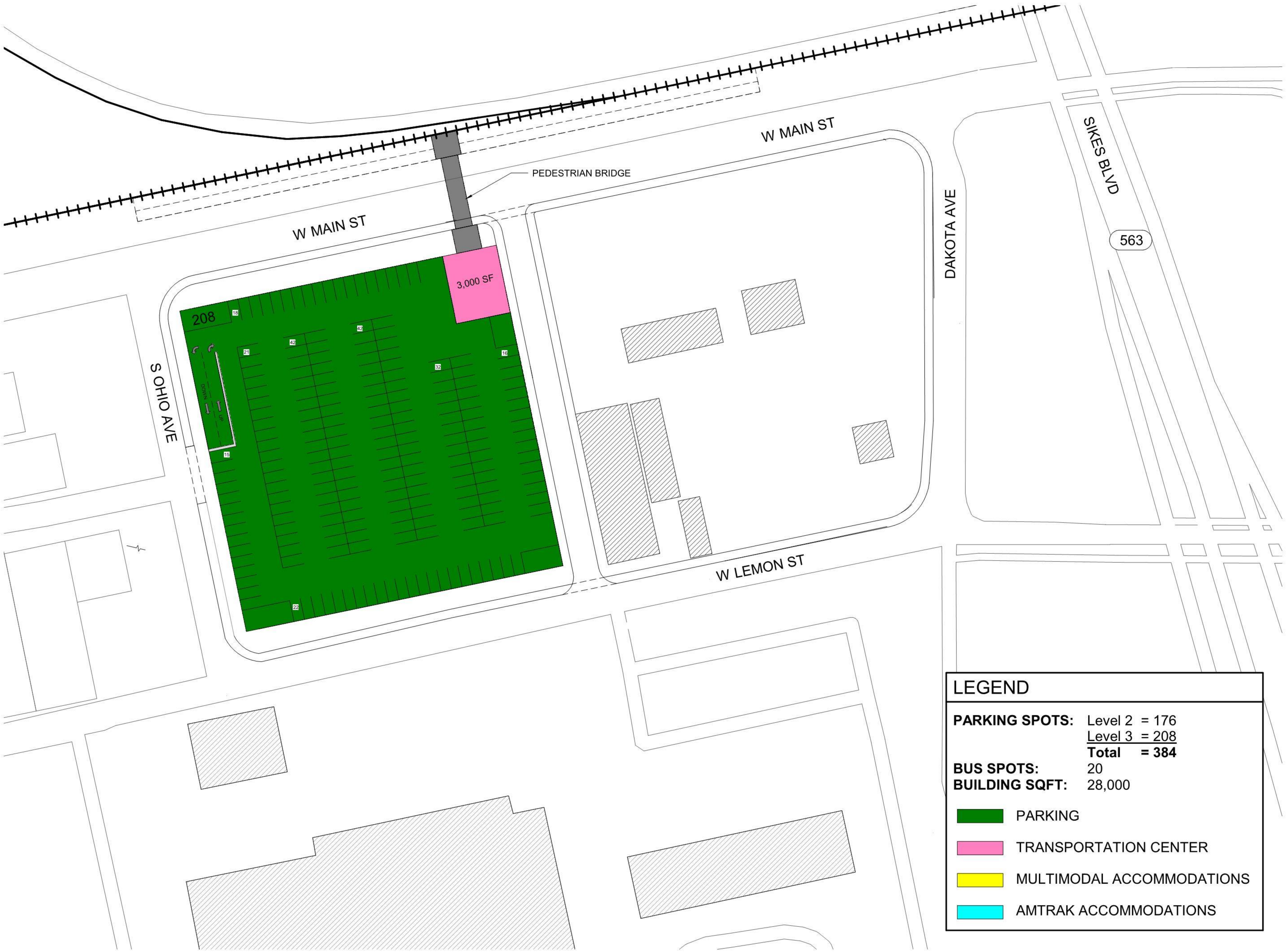
SCALE	DESIGNED	DRAWN	CHECKED
As indicated	Designer	Author	Checker

ORIGINAL SHEET SIZE	ISSUE FOR CONSTRUCTION DATE	REVISION NO.
ANSID22X34	DATE	

PROJECT STATUS: STATUS

PROJECT NUMBER: 100063464 SHEET NUMBER: **A-202.B**

C:\Users\TICU4787\OneDrive Corp\OneDrive - Atkins Ltd\Documents\100063464_LAKELAND INTERMODAL_A19_bim360.1KN8RX.rvt
10/9/2019 9:27:56 AM



LEGEND

PARKING SPOTS: Level 2 = 176
Level 3 = 208
Total = 384
BUS SPOTS: 20
BUILDING SQFT: 28,000

- PARKING
- TRANSPORTATION CENTER
- MULTIMODAL ACCOMMODATIONS
- AMTRAK ACCOMMODATIONS

1 **LEVEL 3 - DOWNTOWN WEST**
1" = 50'-0"

PLAN NORTH

DO NOT SCALE

ATKINS DESIGN TEAM

ARCHITECTURE, INTERIORS
CIVIL, STRUCTURAL, LANDSCAPE
MECHANICAL, PLUMBING, FIRE PROTECTION
ELECTRICAL, FIRE ALARM

SNC·LAVALIN
ATKINS
Member of the SNC-Lavalin Group

11801 Domain Boulevard
Suite 500
Austin TX 78758

Tel: +1 512 327 6840
Fax: +1 512 327 2453
www.atkinsglobal.com

CONSULTANTS

replace with CONSULTANT LOGO

CLIENT

ATKINS - SNC LAVALIN

replace with CLIENT LOGO

PROJECT TITLE

ATK_Arch_2019

ADDRESS

REV.	DATE	DESCRIPTION

PROFESSIONAL SEAL

NOT FOR REGULATORY APPROVAL, PERMITTING, OR CONSTRUCTION.

Clifton Dale Austin, RA: 17150 10-08-18

DRAWING TITLE

LEVEL 3 - DOWNTOWN WEST

SCALE	DESIGNED	DRAWN	CHECKED
As indicated	Designer	Author	Checker

ORIGINAL SHEET SIZE	ISSUE FOR CONSTRUCTION DATE	REVISION NO.
ANSID22X34	DATE	

PROJECT STATUS
STATUS

PROJECT NUMBER 100063464
SHEET NUMBER **A-203.B**

C:\Users\TICU4787\OneDrive Corp\OneDrive - Atkins Ltd\Documents\100063464_LAKELAND INTERMODAL_A19_Mira.Ticu.rvt
10/28/2019 11:03:00 AM


OPTION 1
Legend
N
Google Earth

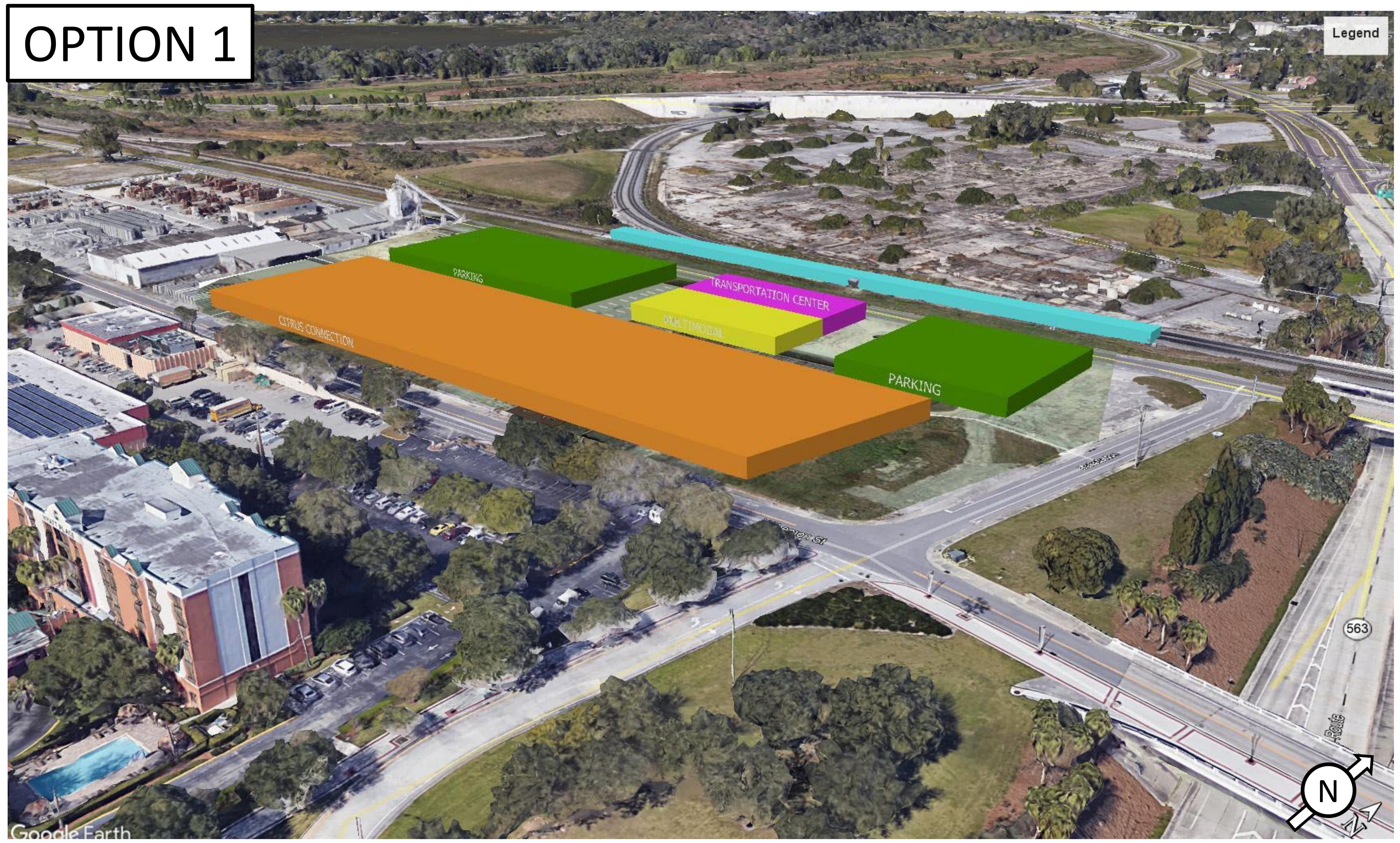

OPTION 2
N

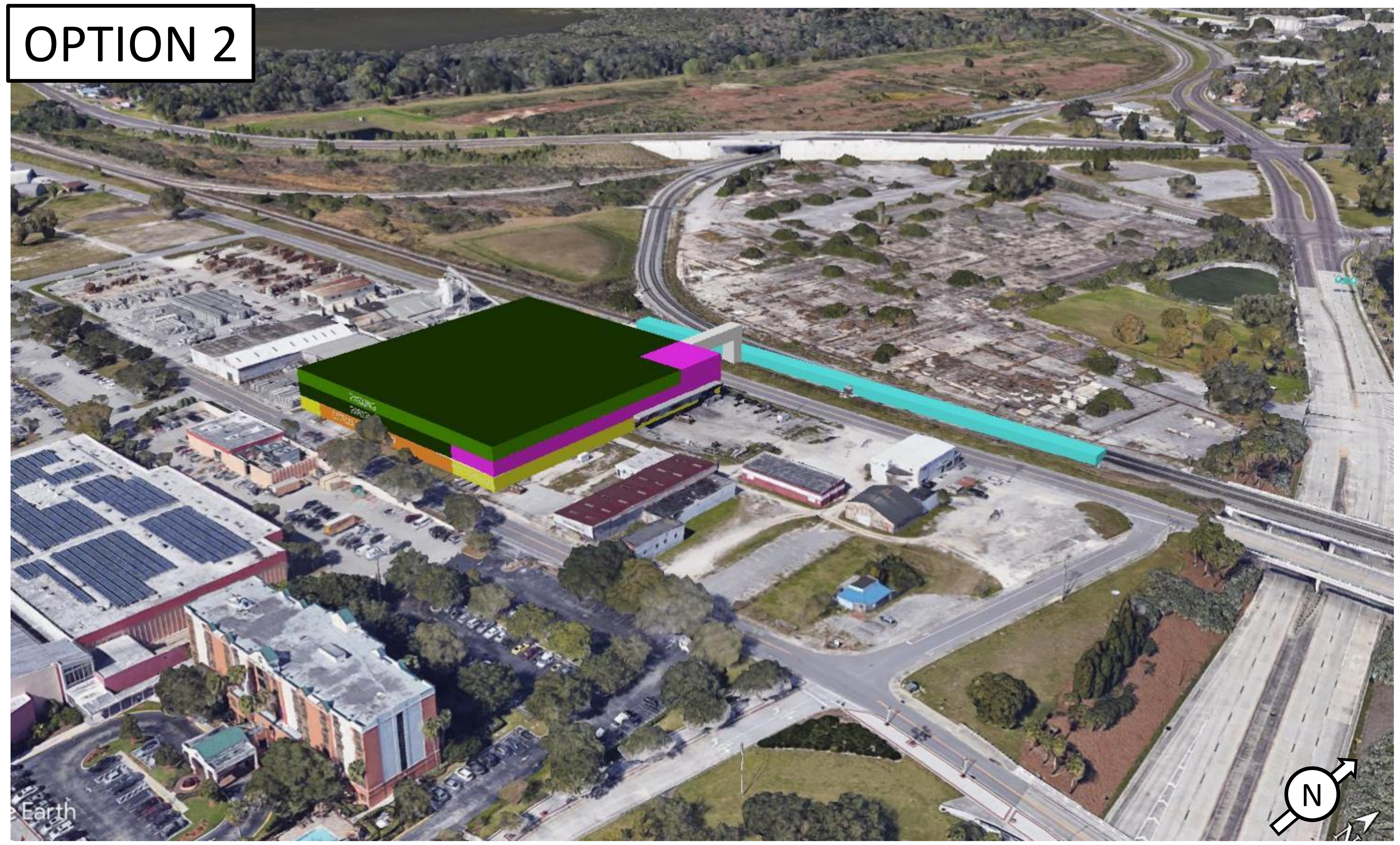

OPTION 1
Legend
N
Google Earth

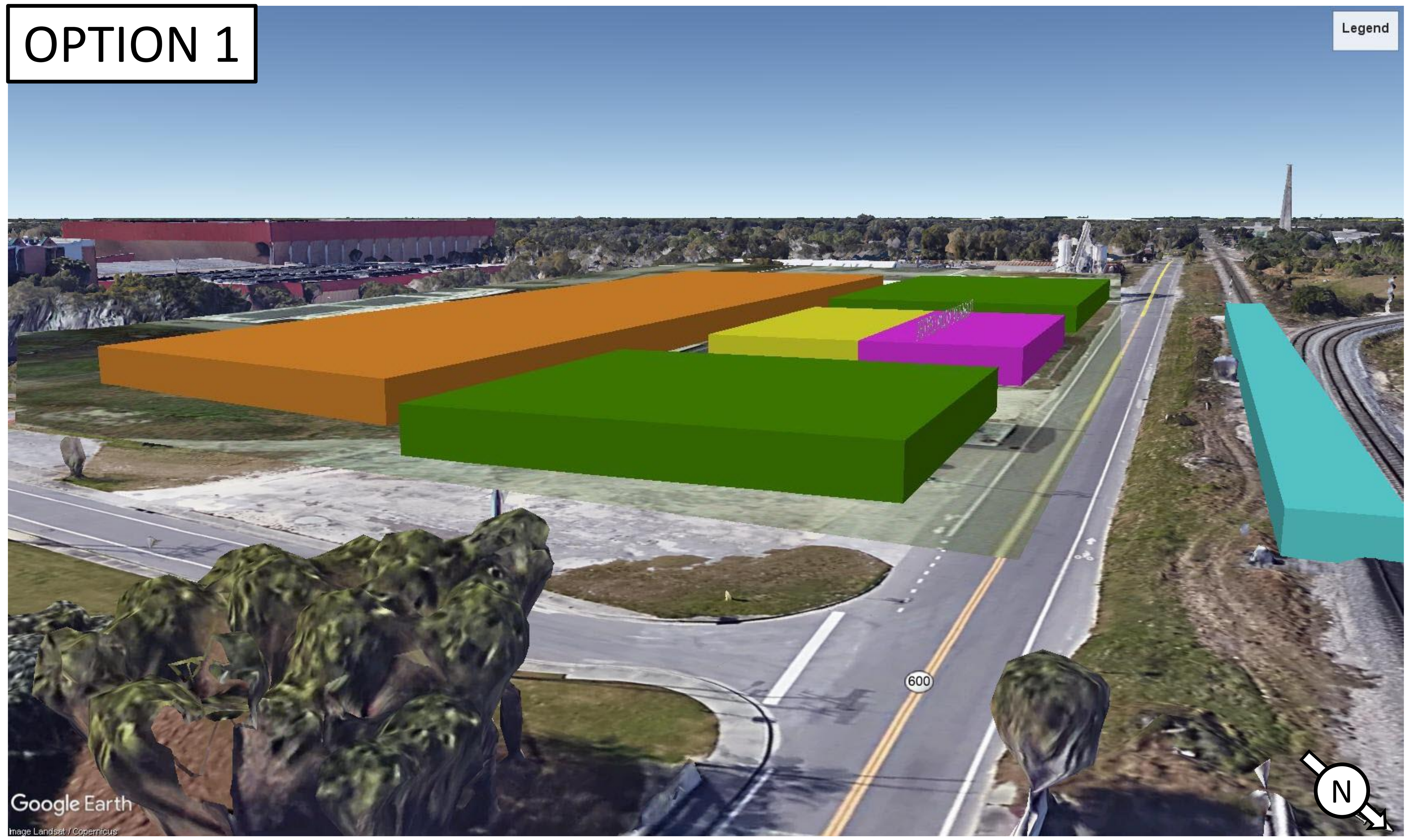

OPTION 2
N

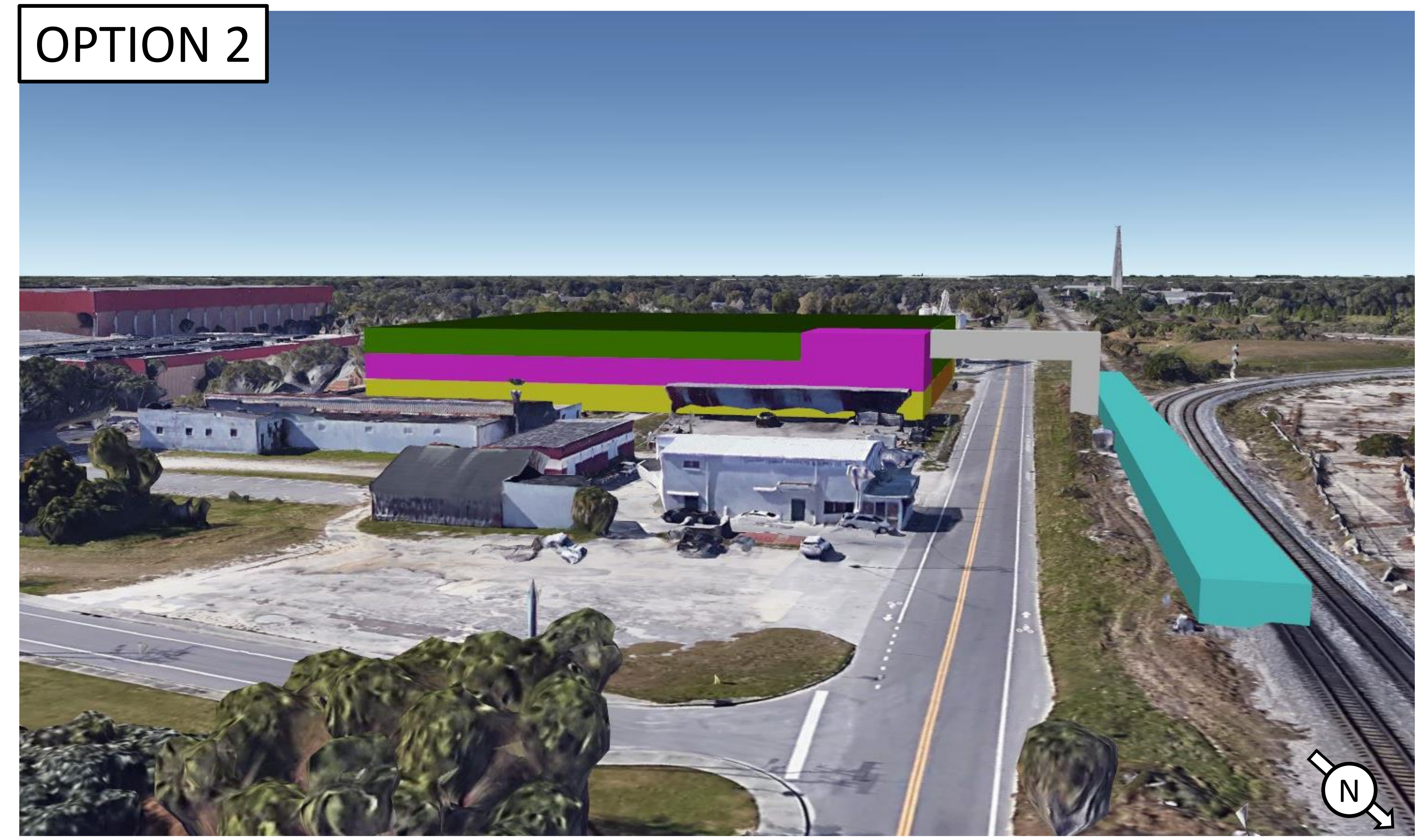

OPTION 1
Legend
N
Google Earth


OPTION 2
N


OPTION 1
Legend
PARKING
TRANSPORTATION CENTER
PARKING
563
N
Google Earth


OPTION 2
N
Earth


OPTION 1
Legend
600
N
Google Earth


OPTION 2
N

APPENDIX C: ENVIRONMENTAL ANALYSIS

Lakeland Intermodal Center Environmental Review

This environmental review provides an overview of natural, cultural, physical, and social/economic resources that are within the vicinity of the proposed Lakeland Intermodal Center (IMC) sites.

The following resources are present nearby or within the potential project sites:

- **Water Quality** - Both project sites are within Water Boundary Identification number (WBIDs) which are considered impaired. The Lakeland Police Site is in a WBID which is designated impaired for dissolved oxygen (DO) and fecal coliform. The RP Funding Center site is in a WBID designated as impaired for fecal coliform and nutrients (macophytes).
- **Protected Species and Habitats –** Both project sites are located in a Black Bear Management Area and a White-tailed Deer Management Area. Note: the entire state of Florida is in these management areas.
- **Cultural Resources -** The RP Funding Center has two historic structures immediately nearby: McMullen's Drug Store (PO03995) and 517 Maine St. (PO04002). In addition, the Police Site is located in the Munn Park Historic District listed in the National Register Sites.
- **Contamination -** Potential contamination sites that exist within the Project Development and Environment Manual (PD&E) specified search buffers include waste cleanup sites, septic tanks, sites in the storage tank contamination monitoring (STCM) program, sites in the petroleum contamination tracking (PCTS) program, SUPER Act risk sites, National Pollutant Discharge Elimination System (NPDES) sites, Resource Conservation and Recovery Act (RCRA) sites, Florida Department of Environmental Protection (FDEP) Cleanup sites, brownfields, sites in the Environmental Protection Agency (EPA) Assessment Cleanup and Redevelopment Exchange System, treaters/storers/disposers of hazardous waste, a solid waste facility, small quantity generators, and hazardous waste facilities. Of importance, there is one SUPERFUND site within ½ mile from the RP Funding Center site. However, this site is a non-National Priority List (NPL) site.

Table 1 provides a summary of the resources evaluated. Affected resources are highlighted.

Table 1 Summary of Resources Evaluated

Resource	Alternative		Data Sources
	Lakeland Police Department Site Area	RP Funding Center Site Area	
Natural Resources			
Wetlands (acres)	0	0	Data source: National Wetlands Inventory
Surface Waters (other than wetland) (acres)	0	0	Data Source: National Wetlands Inventory - Version 2 - Surface Waters and Wetlands Inventory
Aquatic Preserves (acres)	0	0	Data source: Bureau of Survey & Mapping, Division of State Lands.
Outstanding Florida Waters (Yes/No issue)	No	No	Data source: FDEP.
Water Quality (yes/no issue)	Yes - Dissolved Oxygen & fecal coliform	Yes - Fecal coliform and nutrients (macrophytes)	Data source: FDEP.
Wild and Scenic Rivers (count of number)	0	0	Data source: USFS, NPS, BLM, FWDS, USGS. No Wild/Scenic Rivers within area.
Floodplains (acres)	0	0	Data source: FEMA Flood Insurance Rate Maps (100-yearfloodplain).
Coastal Zone Consistency (yes/no issue)	Yes	Yes	Data source: U.S. Census Bureau's MAF/TIGER database (Coastal Zone Management Program)
Coastal Barrier Resources (yes/no issue)	No	No	Data source: USFWS.
Wildlife & Waterfowl Refuges (acres)	No	No	Data source: US FWS (https://www.fws.gov/refuges/maps/NWRS_National_Map.pdf)
Protected Species and Habitat			
Sank Skink Habitat (acres)	0	0	Data source: UF GeoPlan
Choctawhatchee Beach Mouse habitat (acres)	0	0	Data source: US FWS
Snowy Plover Nests (FWC) (count)	0	0	Data source: FWC
Bald Eagle nests (within 1,500 feet) (count)	0	0	Data source: FWC
Woodstork Nests (count)	0	0	Data source: US FWS
Piping Plover Locations (count)	0	0	Data source: US FWS
Wilson's Plover Locations (count)	0	0	Data source: US FWS
Gopher Tortoise Relocation Permit Sites (count)	0	0	Data source: FWC
Species Observation Database (count)	0	0	Data source: UF GeoPlan
Wildlife Management Areas (yes/no issue)	No	No	Data source: FWC.

Resource	Alternative		Data Sources
	Lakeland Police Department Site Area	RP Funding Center Site Area	
TNC Ecological Resource conservation Areas (yes/no issue)	No	No	Data source: The Nature Conservancy.
Black Bear Management Unit (yes/no issue)	Yes	Yes	Data source: FWC. Black Bear Management Unt is present in 100% of the ROW for all alignments
White-Tailed Deer Management Unit (yes/no issue)	Yes	Yes	Data source: FWC. White-Tailed Deer Management Unt is present in 100% of the ROW for all alignments
Strategic Habitat Conservation Areas	No	No	Data source: FWC
Critical Wildlife Areas	No	No	Data source: FWC
Essential Fish Habitat (acres)	No	No	Data source: NOAA.
Cultural Resources			
Public Parks/Recreational Areas			
Trails (count of crossings, not individual trails)	0	0	Data source: FDEP.
Parks (yes/no issue)	0	0	Data source: UF GeoPlan
Archeological Sites	None	None	Data source: Florida Master Site file; National Register of Historic Places
Florida Historic Structures	None	(2) - McMullen's Drug Store (PO03995) and 517 Maine St. (PO04002)	Data source: Florida Master Site file; National Register of Historic Places
National Register Sites	(1) - Munn Park Historic District	None	Data source: Florida Master Site file; National Register of Historic Places
Resource Groups	None	None	Data source: Florida Master Site file; National Register of Historic Places
Historic Bridges	None	None	Data source: Florida Master Site file; National Register of Historic Places
Historic Cemeteries	None	None	Data source: Florida Master Site file; National Register of Historic Places
American Indian Lands			Data source: UF GeoPlan
Physical			
Noise Sensitive Sites (adjacent parcel) TOTAL	3	1	Includes Count of Residential dwelling units (estimate) as well as SLU.
NAC A	*0*	*0*	Data source: Property appraiser and manual identification
NAC B	*0*	*0*	Data source: Property appraiser and manual identification
NAC C	*0*	*0*	Data source: Property appraiser and manual identification

Resource	Alternative		Data Sources
	Lakeland Police Department Site Area	RP Funding Center Site Area	
NAC D	*0*	*0*	Data source: Property appraiser and manual identification
NAC E	*3*	*1*	Data source: Property appraiser and manual identification
Air Quality (yes/no issue)	No	No	Data source: US EPA Green Book.
Contamination (Various search distances based on PD&E guidance) (count)			
Dry Cleaners (500 ft. from parcel)	0	0	Data source: FDEP.
Waste Cleanup Sites (open/inactive/closed) (500 ft. from parcel)	1	0	Data source: FDEP.
Septic Tanks (500 ft. from parcel)	2	1	Data source: FDOH; Removed duplicates from count.
Storage Tank Contamination Monitoring Sites (STCM) (500 Ft. from parcel)	8	2	Data source: FDEP.
Petroleum Contamination Tracking Sites (PCTS) (500 ft. from parcel)	3	2	Data source: FDEP.
SUPER Act Well (FDOH) (500 ft. form parcel)	0	0	Data source: FDOH.
SUPER Act Risk Site (FDOH) (500 ft. form parcel)	3	1	Data source: FDOH.
National Pollutant Discharge Elimination System (NPDES) (500 ft. from parcel)	2	2	Data source: US EPA
Biomedical Waste Facilities (500 ft. from parcel)	0	0	Data source: FDOH
Resource Conservation and Recovery Act Sites (500 ft. from parcel)	2	0	Data source: US EPA
State Funded Cleanup Sites (500 ft. from parcel)	0	0	Data source: FDEP and DWM
EPA Toxic Release Inventory (500 ft. from parcel)	0	0	Data source: US EPA
DEP Cleanup sites (500 ft. from parcel)	1	2	Data source: FDEP.
Brownfields (1,000 ft. from parcel)	0	2	Data source: FDEP.
EPA Assessment Cleanup and Redevelopment Exchange system for Brownfields Grantee Reporting in FL (1,000 ft. from parcel)	1	0	Data Source: US EPA
Treaters, Storers & Disposers of Haz. Waste (1,000 ft. from parcel)	0	1	Data source: FDEP.
Wastewater Facility (1,000 ft. form parcel)	0	0	Data source: FDEP.

Resource	Alternative		Data Sources
	Lakeland Police Department Site Area	RP Funding Center Site Area	
Solid Waste Facility (1,000 ft. form parcel)	0	1	Data source: FDEP.
Institutional Controls Registry (ICR) (1,000 ft. from parcel)	0	0	Data source: FDEP.
Hazardous Waste (CHAZ) Facilities (1,000 ft from parcel)	4	3	Data source: FDEP.
Small Quantity Generators (SQG) (1,000 ft. from parcel)	2	2	Data source: FDEP.
Large Quantity Generators (LQG) (1,000 ft. from parcel)	0	0	Data source: FDEP.
SUPERFUND/NPL Sites (1/2 Mile from parcel)	0	1	Data source: US EPA.
Railroads	nearby	nearby	Data source: Federal Railroad Administration.
Navigation (Navigable Waterways) (yes/no issue)	No	No	Data source: Bureau of Transportation Statistics; Homeland Infrastructure Foundation-Level Data
Social and Economic			
PARCELS impacted (does NOT include ROW parcels)	1	3	Data source: Polk County Property Appraiser
Farmlands (acres)	0	0	Data source: NRCS Soil data. Yes = "Farmland of Local Importance" for alternative.
Fire Station (count)	0	0	Data source: UF GeoPlan.
Law Enforcement Facility	1	0	Data source: UF Geo Plan, FDLE, ATF, CBP, DEA, DTS, FBI, FDEM, FHP, HCSO, HSIP, NCFRPC, NEFRPC, Polk County, Polk Sherriff, USCIS, USSS, Websites.
Hospital/Healthcare facilities	0	0	Data source: Florida Department of Health Bureau of Community Environmental Health (FDOH): Biomedical Waste - Attribute Table from 20140812, FDEM, UF GeoPlan, and Image Research.
Libraries	0	0	Data source: UF GeoPlan.
Schools	0	0	Data source: FDOE, NCES, FLORIDA COUNTIES, DTS, RPCs.
Daycares	0	0	Data source: Florida Department of Children and Families
Churches	0	0	Data source: UF GeoPlan.
Cultural Centers	0	0	Data source: UF GeoPlan.
Cemeteries	0	0	Data source: DTS, UF GeoPlan, GNIS 2006, GNIS 2011, NCFRPC, NEFRPC, SHPO, Parcel data, State of Florida Funeral Cemetery and Consumer Services, and Super Pages.
Existing Land Use (see map)			Data Source: SWFWMD
Future Land Use (see map)			Data Source: Polk County

1.1 Natural Resources

1.1.1 Wetlands

No wetlands exist within the project sites.

1.1.2 Surface Waters (other than wetland)

No surface waters exist within the project sites.

1.1.3 Aquatic Preserves

No aquatic preserves exist within the project sites.

1.1.4 Outstanding Florida Waters

No outstanding Florida waters exist within the project sites.

1.1.5 Water Quality

Both project sites are within WBIDs which are considered impaired. The Lakeland Police Site is in a WBID which is designated impaired for dissolved oxygen (DO) and fecal coliform. The RP Funding Center site is in a WBID designated as impaired for fecal coliform and nutrients (macophytes).

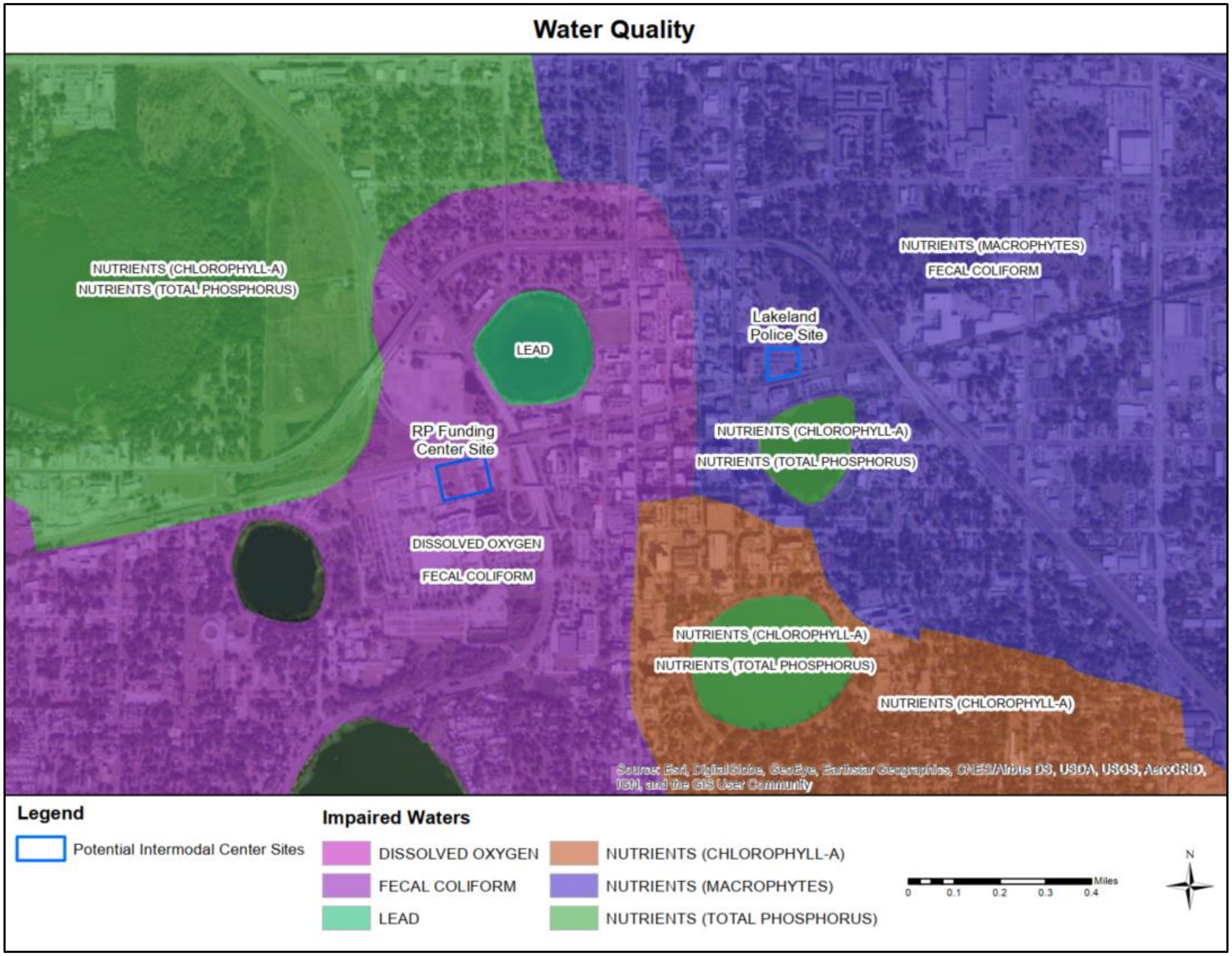


Figure 1 - Water Quality

1.1.6 Wild and Scenic Rivers

No wild and scenic rivers exist within the project sites.

1.1.7 Floodplains

No floodplains (100-year) exist within the project sites.

1.1.8 Coastal Zone Consistency

Both project sites are located in Polk County, which is in the Coastal Zone Management Program.

1.1.9 Coastal Barrier Resources

The project sites are not in an area designated as a coastal barrier resource.

1.1.10 Critical Wildlife Areas

The project sites are not located in any critical wildlife areas.

1.1.11 Essential Fish Habitat

The project sites do not contain essential fish habitat (EFH).

1.1.12 Wildlife and Waterfowl Refuges

The project sites are not located in any wildlife or waterfowl refuges.

1.1.13 Protected Species

Sank Skink Habitat

The project sites do not contain sand skink habitat.

Choctawhatchee Beach Mouse habitat

The project sites do not contain Choctawhatchee Beach Mouse habitat.

Snowy Plover Nests

The project sites are not near snowy plover nests.

Bald Eagle nests

The project sites are not within 1,500 ft. of a bald eagle nest.

Woodstork Nests

The project sites are not near Woodstork nests.

Piping Plover Locations

The project sites are not near Piping Plover locations.

Wilson's Plover Locations

The project sites are not near Wilson's Plover locations.

Gopher Tortoise Relocation Permit Sites

The project sites are not near any Gopher Tortoise Relocation Permits.

Wildlife Management Areas

The project sites are not located in a Wildlife Management Area (WMA).

TNC Ecological Resource conservation Areas

The project sites are not located in a Nature Conservancy Ecological Resource Conservation Area.

Black Bear Management Unit

The project sites are located in a Black Bear Management Area. Note: the entire state of Florida is in this management area.

White-Tailed Deer Management Unit

The project sites are located in a White-tailed Deer Management Area. Note: the entire state of Florida is in this management area.

1.2 Cultural Resources

1.2.1 Public Parks/Recreational Areas

Parks

The project sites are not located in a park.

Trails

The project sites do not have any trail crossings.

1.2.2 National Register Sites

Data obtained from the Florida Master Site Files.

Archeological Sites

The project sites are not near an archeological site.

Florida Historic Structures

The RP Funding Center has two historic structures immediately nearby: McMullen's Drug Store (PO03995) and 517 Maine St. (PO04002).

National Register Sites

The Police Site is located in the Munn Park Historic District listed in the National Register Sites.

Resource Groups

The project sites are not listed in a Resource Group.

Historic Bridges

The project sites do not contain any historic bridges.

Historic Cemeteries

The project sites do not contain any historic cemeteries.

American Indian Lands

The project sites are not on American Indian lands.

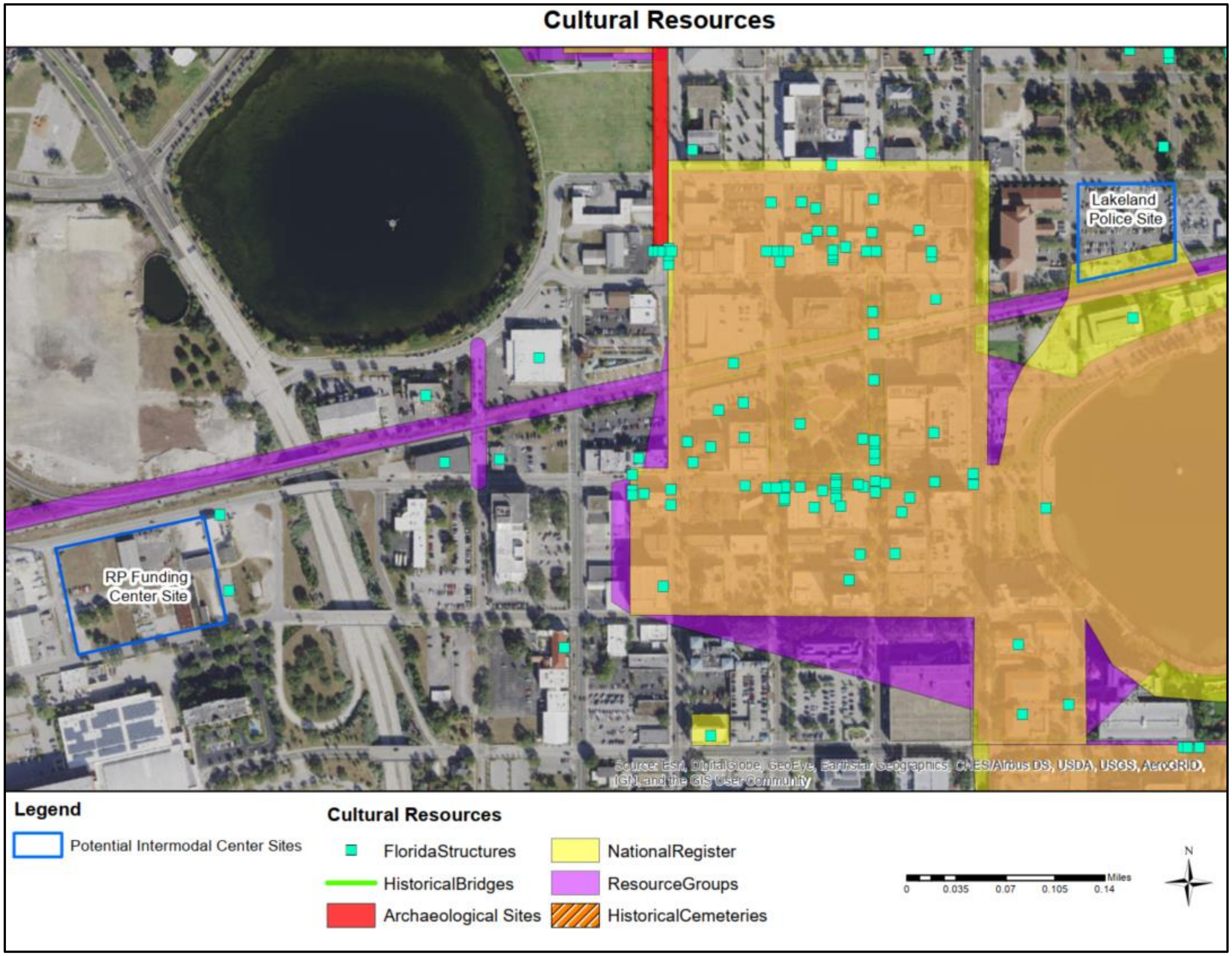


Figure 2 - Cultural Resources

Note: Orange shaded area represents where National Register and Resource Groups overlap.

1.3 Physical Resources

1.3.1 Noise

Noise Sensitive Sites

Noise sensitive sites are grouped by land use type and have various noise thresholds, called Noise Abatement Criteria (NAC). The number of parcels immediately adjacent to the potential Intermodal Center is provided, grouped by NAC and project site.

Noise sensitive sites located in the adjacent parcels to each potential IMC site are limited to NAC E, as shown in **Table 2** below.

Table 2 - Number of Noise Sensitive Sites by NAC and IMC Site

NAC	Lakeland Police Department Site	RP Finding Center Site
NAC A	0	0
NAC B	0	0
NAC C	0	0
NAC D	0	0
NAC E	3	1

1.3.2 Air Quality

No air quality issues exist, as the project sites are in an attainment area. **Figure *3*** shows the nonattainment area for sulfur dioxide located in a part of Polk County (i.e., outside of the project study areas).

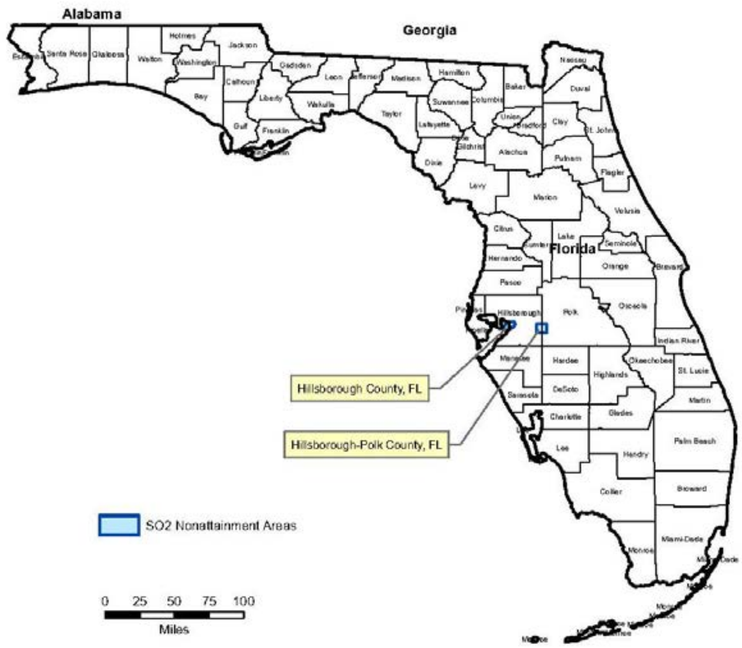


Figure 3 - Florida Sulfur Dioxide (2010 standard) Non-Attainment Areas. EPA, 2019.

1.3.3 CONTAMINATION

Potential contamination sites listed below have been identified in accordance with Chapter 20 of the FDOT's Project Development and Environment (PD&E) Manual (*Contamination*) (January 2019). Various search distances were applied, depending on the type of site. The PD&E Manual provides guidance of:

- 500 ft. for petroleum, drycleaners, and non-petroleum sites;
- 1,000 feet from the ROW line for non-landfill solid waste sites (such as recycling facilities, transfer stations and debris placement areas); and
- ½ mile for Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), National Priorities List (NPL) Superfund sites, or landfill sites.

As shown in **Table 3**, potential contamination sites that exist within the specified search buffers include waste cleanup sites, septic tanks, sites in the storage tank contamination monitoring (STCM) program, sites in the petroleum contamination tracking (PCTS) program, SUPER Act risk sites (FDOH), National Pollutant Discharge Elimination System (NPDES) sites, Resource Conservation and Recovery Act (RCRA) sites, FDEP cleanup sites, brownfields, sites in the EPA Assessment Cleanup and Redevelopment Exchange System, treaters/storers/disposers of hazardous waste, a solid waste facility, small quantity generators, and hazardous waste facilities. Of importance, there is one SUPERFUND/NPL site within ½ mile from the RP Funding Center site.

The following sources were identified within their respective search distances (descriptions from www.fgdl.org unless stated otherwise):

- **Dry Cleaners -** These dry-cleaning sites are eligible for a state funded program (Dry-cleaning Solvent Cleanup Program) to cleanup properties that are contaminated as a result of the operations of a dry-cleaning facility or a wholesale supply company (Chapter 376, Florida Statutes). A fund has been established to pay for the costs related to the cleanup of these properties. Drycleaners applied to participate in this program from 1995 (when the law was passed) to December 31, 1998. All sites have confirmed contamination above Contamination Target Levels and have complied with conditions set in the law.
- **Waste Cleanup Sites (open/inactive/closed)**
    - **Open –** This data set reflects OPEN Waste Cleanup (Responsible Party) sites. Cleanup of the site as tracked by the District Waste Cleanup Section remains to be done, a cleanup phase is progressing, or the site is subject to a monitoring plan. This set does not include sites awaiting action as a result of a case referral, e.g., to EPA or State Cleanup/Superfund. Sites that have completed remediation and are awaiting a copy of a county clerk "filed" stamp for recording of any institutional controls are still considered OPEN. Sites where EPA has assumed the role of lead agency but the site is not on the National Priorities List are still overseen by the district are included in the list of OPEN sites
    - **Inactive –** Waste Cleanup (Responsible Party) Sites are placed in INACTIVE status while awaiting action a s a result of determining eligibility for program cleanup in either Dry Cleaning or petroleum or CERCLA screening. Sites placed in this status may return to Waste Cleanup after the program cleanup or evaluation is completed to resolve any outstanding issues. When a case is returned to the District Waste Cleanup Section from one of the reviewing programs noted above, the status is changed back to OPEN.
    - **Closed -** This data set reflects CLOSED Waste Cleanup (Responsible Party) sites. These are sites where the case file has been closed by the District Waste Cleanup Section. All cleanup phases, including long term monitoring have been accomplished and are no longer the responsibility of the district. Cases referred to, and accepted by, other program areas, e.g., the EPA, State Cleanup/Superfund programs, petroleum programs, dry-cleaning solvent cleanup program are also designated as CLOSED. There may be long-term deed restrictions or engineering controls placed on a site that has been CLOSED in COMET. Any such controls are tracked in the Institutional Control Registry.
- **Septic Tanks -** This shapefile contains onsite sewage treatment and disposal systems inspected by the Department of Health.
- **Storage Tank Contamination Monitoring Sites (STCM) -** Regulated Facilities from STCM (Storage Tank Contamination Monitoring). This coverage includes facilities with registered above-ground or underground storage tanks. This dataset contains both currently and previously regulated facilities. It also contains facilities registered with DEP for the purpose of tracking on-site petroleum contamination.
- **Petroleum Contamination Tracking Sites (PCTS) - T**his coverage includes all identified petroleum program contaminated discharge sites where cleanup is ongoing or

complete. Discharge cleanup sites may be eligible or ineligible for state funding assistance. More than one discharge site may be present at a current or former petroleum storage tank facility.

- **SUPER Act Well (FDOH) -** This dataset consists of information and locations relating to all privately and publicly owned potable wells investigated as part of the State Underground Petroleum Environmental Response Act (SUPER Act) program. Environmental Engineering staff identify all private water wells within ¼ mile, and all public drinking water wells within ½ mile of potential petroleum contamination sources. The data contains information about the owners, addresses and geographic coordinates of the wells.
- **SUPER Act Risk Site (FDOH) -** The dataset consists of information relating to petroleum and dry-cleaning facilities investigated as part of the State Underground Petroleum Environmental Response Act Program (SUPER ACT), and Dry-cleaning Solvent Surveillance Program (DSSP).
- **National Pollutant Discharge Elimination System (NPDES) -** This data set contains locations of EPA-regulated pollutant discharge facilities from the Integrated Compliance Information System (ICIS) database. ICIS-NPDES is an information management system designed to track permit compliance and enforcement status of facilities regulated by the National Pollutant Discharge Elimination System (NPDES) under the Clean Water Act (CWA). The NPDES permit program addresses water pollution by regulating point sources that discharge pollutants to waters of the United States. ICIS-NPDES is designed to support the NPDES program at the state, regional, and national levels. ICIS-NPDES is now the database of record for inspection data (both state and federal) for states that have been migrated to ICIS-NPDES from the Permit Compliance System (PCS). Additional Information is available at the EPA website: http://www.epa.gov/geospatial.
- **Biomedical Waste Facilities -** This shapefile contains biomedical waste facilities inspected by the Florida Department of Health. There are approximately 42,000 facilities in Florida that generate biomedical waste. These include hospitals, clinics, nursing homes, laboratories, funeral homes, dentists, veterinarians, physicians, pharmacies that provide flu shots, body piercing salons, tattoo shops, transporters, and storage and treatment facilities.
- **Resource Conservation and Recovery Act (RCRA) Sites -** This data set contains locations of and information on sites that are regulated under the Resource Conservation and Recovery Act (RCRA). Hazardous waste information is contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984. (Excerpted from

https://www.epa.gov/enviro/rcrainfo-overview). Additional Information is available at the EPA website http://www.epa.gov/geospatial/.

- **State Funded Cleanup Sites –** The State-Funded cleanup program is designed to address sites where there are no viable responsible parties; the site poses an imminent hazard; and, the site does not qualify for Superfund or is a low priority for EPA. Remediation efforts are triggered when a Florida Dept. of Environmental Protection District Office requests adoption of a site for state-funded cleanup. Funding for these remedial efforts comes from the Water Quality Assurance Trust Fund. Remedial activity may include contamination assessments, risk assessments, feasibility studies, design and construction of treatment systems, operation and maintenance of the installed treatment systems, and removal of contaminated media when necessary.
- **EPA Toxic Release Inventory -** This dataset contains the basic facility identification information for all Toxic Release Inventory (TRI) facilities, in Florida, for Reporting Year 2015. The Toxics Release Inventory (TRI) is a database containing detailed information on nearly 650 chemicals and chemical categories that industrial and federal facilities manage through disposal or other releases, and waste management for recycling, energy recovery, or treatment. The file lists the last reporting year the Facility submitted an active and valid data to the TRI program. TRI tracks the management of certain toxic chemicals that may pose a threat to human health and the environment. U.S. facilities in different industry sectors must report annually how much of each chemical is released to the environment and/or managed through recycling, energy recovery and treatment. (A "release" of a chemical means that it is emitted to the air or water, or placed in some type of land disposal.) The information submitted by facilities is compiled in the Toxics Release Inventory. TRI helps support informed decision-making by industry, government, non-governmental organizations and the public.
- **FDEP Cleanup Sites -** The Cleanup Sites layer provides locations and document links for sites currently in the cleanup process and sites awaiting cleanup funding. Cleanup programs include: Brownfields, Petroleum, EPA Superfund (CERCLA), Drycleaning, Responsible Party Cleanup, State Funded Cleanup, State Owned Lands Cleanup and Hazardous Waste Cleanup. (https://geodata.dep.state.fl.us/datasets/dep-cleanup-sites)
- **Brownfields -** This data set contains Brownfield Boundaries. Brownfields are defined by the Florida Department of Environmental Protection (FDEP) as abandoned, idled, or underused industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination. The primary goals of Florida's Brownfields Redevelopment Act (Ch. 97-277, Laws of Florida, codified at ss. 376.77-.85, F.S.) are to reduce health and environmental hazards on existing commercial and industrial sites that are abandoned or underused due to these hazards and create financial and regulatory incentives to encourage redevelopment and voluntary cleanup of contaminated properties. A 'brownfield area' means a contiguous area of one or more brownfield sites, some of which may not be contaminated, that has been designated as such by a local government resolution. Such areas may include all or portions of community redevelopment areas, enterprise zones, empowerment zones, other such

designated economically deprived communities and areas, and Environmental Protection Agency (EPA) designated brownfield pilot projects. This layer provides a polygon representation of the boundaries of these designated Brownfield Areas in Florida.

- **EPA Assessment Cleanup and Redevelopment Exchange system for Brownfields Grantee Reporting in Florida -** This data set contains locations of properties targeted for EPA Brownfields grant assistance from the Assessment, Cleanup and Redevelopment Exchange System (ACRES) database. ACRES stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A brownfield is a property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Additional Information is available at the EPA website: https://www.epa.gov/brownfields/brownfields-grantee-reporting-using-assessment-cleanup-and-redevelopment-exchange-system.
- **Treaters, Storers & Disposers of Haz. Waste -** Treaters, Storers and Disposers of Hazardous Waste are facilities regulated under the federal Resource Conservation and Recovery Act (RCRA) and applicable state regulations for Treating, Storing, and/ or Disposing of hazardous waste. They are either conducting those hazardous waste activities under permits issued by the Department of Environmental Protection, or are facilities that may be undergoing corrective action or site remediation under civil or judicial orders.
- **Wastewater Facility -** Statewide coverage of Wastewater Facility Regulation (WAFR) Facilities. This dataset includes facilities whose current operating status is Active, Closed but Monitored, or Under Construction. Also included are un-permitted facilities for which a permit is required. These facilities are regulated by the following Florida Department of Environmental Protection programs - "Industrial Wastewater Program", "Domestic Wastewater Program", "Phosphate Management Wastewater Program", "Power Plant Management Wastewater Program."
- **Solid Waste Facility -** Statewide coverage of Water Assurance Compliance System (WACS) Solid Waste Facilities.
- **Institutional Controls Registry (ICR) -** INSTITUTIONAL CONTROL REGISTRY (ICR) An institutional control site is a site that has certain restrictions on the property. For example, a site may be cleaned up to satisfy commercial contamination target levels. An institutional control may be placed on that property indicating that it may only be used for commercial levels. If the owner of the property ever wants to use that property for residential purposes, the owner will have to ensure that the contamination meets residential target levels.
- **Hazardous Waste (CHAZ) Facilities -** Statewide coverage of Compliance & Enforcement Tracking for Hazardous Waste (CHAZ) Facilities.
- **Small Quantity Generators (SQG) -** Small Quantity Hazardous Waste Generators (SQGs) is a generator if the site meets all of the following criteria: (i) Generates, in any calendar month, more than 100 kilograms (kg; 220 pounds [lbs]) but less than 1,000 kg

(2,200 lbs) of RCRA hazardous waste; and (ii) Does not generate, in any calendar month, more than 1 kg (2.2 lbs) of acute hazardous waste listed in sections (https://geodata.dep.state.fl.us/datasets/small-quantity-hazardous-waste-generators-sqgs).

- **Large Quantity Generators (LQG) -** Large Quantity Generators of Hazardous Waste are tracked in this coverage based on their notification to the Department of Environmental Protection as to their handler status, or based on inspections conducted at their facilities. These facilities are regulated under the federal Resource Conservation and Recovery Act (RCRA) and applicable state regulations as generators of hazardous wastes in quantities equal to or greater than 1,000 Kg in any one calendar month.
- **SUPERFUND/NPL Sites -** This data set contains locations of EPA-regulated Superfund sites contained in the Superfund Enterprise Management System (SEMS). SEMS integrates multiple legacy systems into a comprehensive tracking and reporting tool. The database contains information for National Priorities List (NPL) sites (i.e., sites proposed to the NPL, currently on the final NPL or deleted from the final NPL), sites with a Superfund Alternative Approach agreement, as well as Non-NPL sites. More information is available at https://www.epa.gov/superfund.

Table 3 - Potential Contamination Sites

Contamination Source	Search Distance	Lakeland Police Department Site	RP Finding Center Site
Dry Cleaners	500 ft. from parcel	0	0
Waste Cleanup Sites (open/inactive/closed)		1	0
Septic Tanks		2	1
Storage Tank Contamination Monitoring Sites (STCM)		8	2
Petroleum Contamination Tracking Sites (PCTS)		3	2
SUPER Act Well (FDOH)		0	0
SUPER Act Risk Site (FDOH)		3	1
National Pollutant Discharge Elimination System (NPDES)		2	2
Biomedical Waste Facilities		0	0
Resource Conservation and Recovery Act Sites		2	0
State Funded Cleanup Sites		0	0
EPA Toxic Release Inventory		0	0
FDEP Cleanup sites		1	2
Brownfields	1,000 ft. from parcel	0	2
EPA Assessment Cleanup and Redevelopment Exchange system for Brownfields Grantee Reporting in FL		1	0
Treaters, Storers & Disposers of Haz. Waste		0	1
Wastewater Facility		0	0
Solid Waste Facility		0	1
Institutional Controls Registry (ICR)		0	0
Hazardous Waste (CHAZ) Facilities		4	3
Small Quantity Generators		2	2
Large Quantity Generators (LQG)		0	0
SUPERFUND/NPL Sites	½ Mile from parcel	0	1

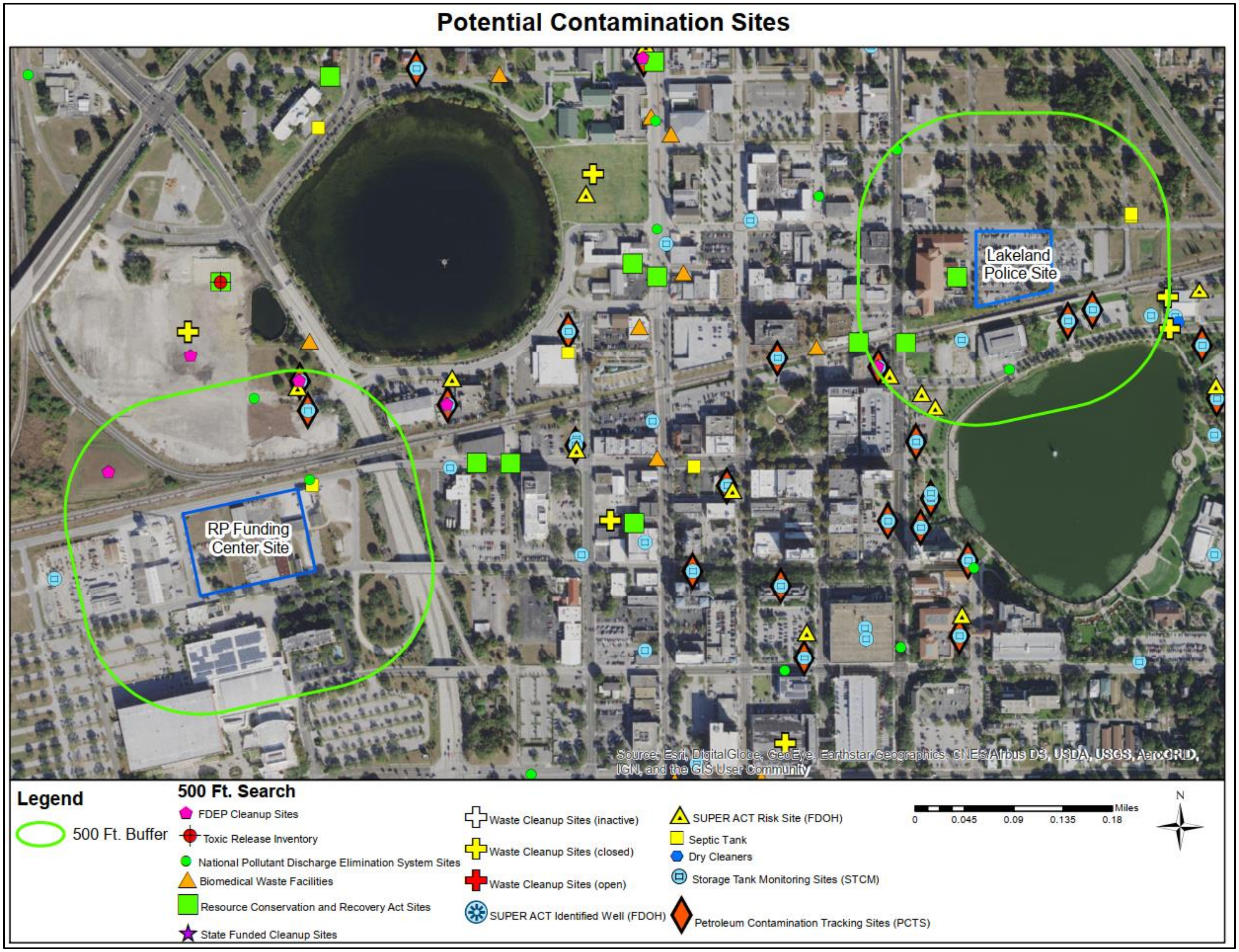


Figure 4 - Potential Contamination Sites (within 500 Ft)

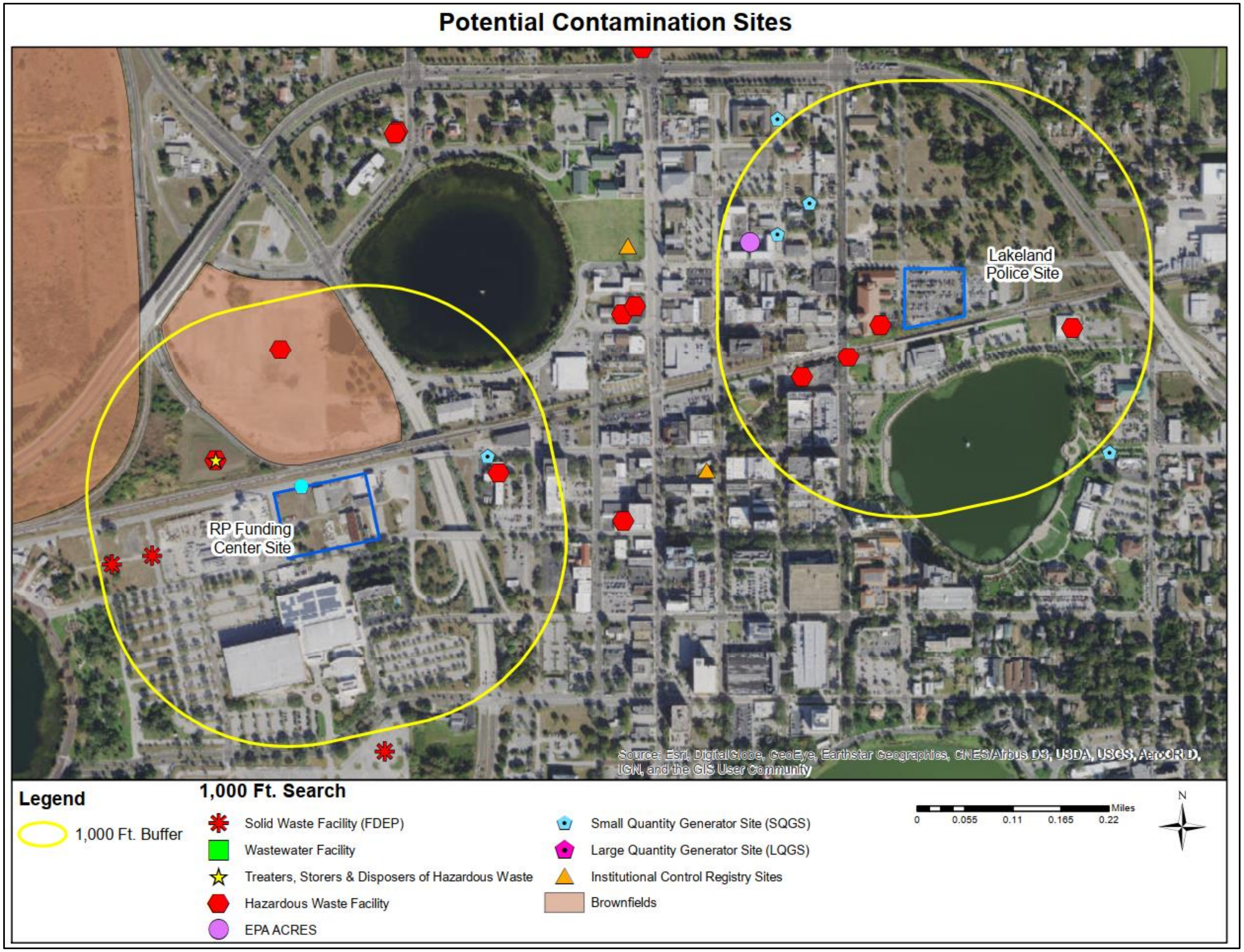


Figure 5 - Potential Contamination Sites (within 1,000 Ft.)

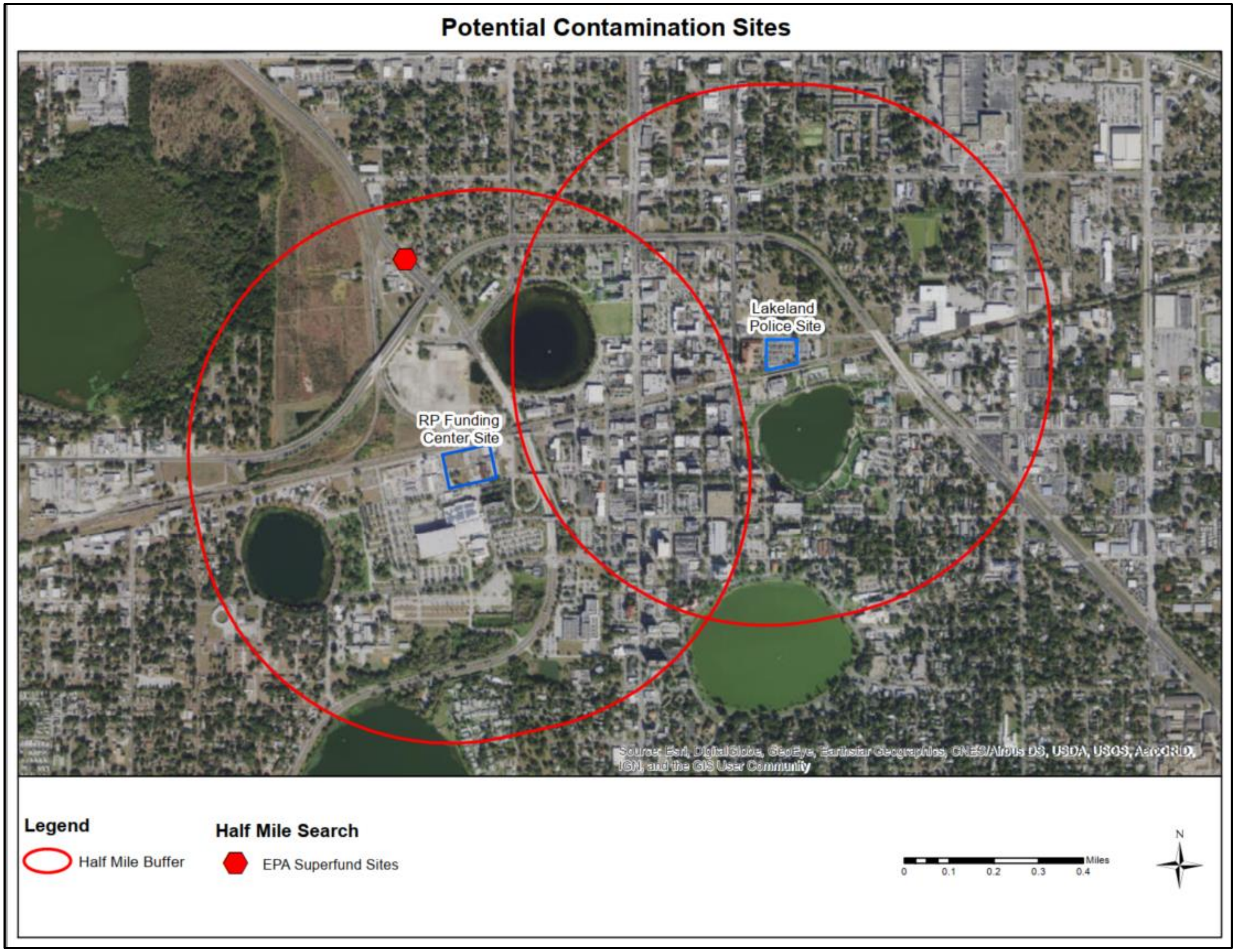


Figure 6 - Potential Contamination Sites (within 1/2 Mile)

Dry Cleaners

Police Site - None within 500 feet.

RP Funding Site – None within 500 feet.

Waste Cleanup Sites (open/inactive/closed)

Police Site – (1) CTS Lakeland Property ID #9501216 (closed).

RP Funding Site – None within 500 feet.

Septic Tanks

Police site – (2) 305 Gilmore Ave N. & 309 Gilmore Ave N.

RP Funding site – (1) 530 Maine St. W.

Storage Tank Contamination Monitoring Sites (STCM)

Police Site – (8) Southeast Electric, Lakeland Police Dept., Lakeland Area Mass Transit, Powell Oil Co., Firestone, Spadola Honey Co., Winter Haven Chrysler Plymouth Dodge, Lakeland City Lake Mirror Power Plant.

RP Funding Site – (2) Borden Inc. Dairy, FL Title Industries.

Petroleum Contamination Tracking Sites (PCTS)

Police Site – (3) Lakeland Area Mass Transit, Firestone, Lakeland City Lake Mirror Power Plant.

RP Funding Site – (2) Borden Inc. Dairy, FL Title Industries.

SUPER Act Well

Police Site - None within 500 feet.

RP Funding Site – None within 500 feet.

SUPER Act Risk Site

Police Site – (3) Lakeland City Fire Department, Lakeland Area Mass Transit, Outsource Management solutions.

RP Funding Site – (1) Borden Dairy.

National Pollutant Elimination System Sites

Police Site – (2) Catapult Lakeland – Redevelopment and State Road 33 Business Park.

RP Funding Site – (2) Cement Products & Supply Co. and Lake Wire Development/Bonnet Spring Park.

Biomedical Waste Facilities

Police Site – None within 500 feet.

RP Funding Site – None within 500 feet.

Resource Conservation and Recovery Act Sites

Police Site – (2) Florida DOT Bridge #160023 and French's Transmission.

RP Funding Site – None within 500 feet.

State Funded Cleanup Sites

Police Site – None within 500 feet.

RP Funding Site – None within 500 feet.

EPA Toxic Release Inventory Sites

Police Site – None within 500 feet.

RP Funding Site – None within 500 feet.

FDEP Cleanup Sites

Police Site – (1) Firestone #1946-003980.

RP Funding Site – (2) Borden Inc. Dairy and Florida Title Closed Impoundment.

Brownfields

Police Site - None within 1,000 feet.

RP Funding Site – (2) CSX Lakeland Railyard/former Bonnet Springs Park, Former Florida Title Closed Impoundment.

EPA Assessment Cleanup and Redevelopment (ACRES) for Brownfields Grantee Reporting in FL

Police site – (1) Lakeland Southern Square.

RP Funding Site – None within 1,000 feet.

Treaters, Storers & Disposers of Haz. Waste

Police Site - None within 1,000 feet.

RP Funding site – (1) Florida Title (closed impoundment).

Wastewater Facility

Police Site - None within 1,000 feet.

RP Funding site – none within 1,000 feet.

Solid Waste Facility

Police Site - None within 1,000 feet.

RP Funding Site – (1) The Lakeland Center (RP Funding Center) North DMS.

Institutional Controls Registry (ICR)

Police Site - None within 1,000 feet.

RP Funding site – none within 1,000 feet.

Hazardous Waste (CHAZ) Facilities

Police Site – (4) Peterson Building, Coyne Textile Svc., French's Transmission, Florida DOT Bridge #160023.

RP Funding site – (3) – Goodyear Auto Service Center, Ft. Lakeland Holdings LLC., Florida Title (closed impounded).

Small Quantity Generators

Police Site – (2) Charlie's Import Service Center and Skis Auto Service.

RP Funding Site – (2) First Scaffold & Equipment and Good Shepherd Hospice.

Large Quantity Generators (LQG)

Police Site - None within 1,000 feet.

RP Funding site – none within 1,000 feet.

SUPERFUND/NPL Sites

Police Site - None within 1,000 feet.

RP Funding site – (1) Lakeland Gasification Plant (note: This is a non-NPL site).

1.3.4 Railroads

1.3.5 Navigation (Navigable Waterways)

1.4 Social and Economic Resources

1.4.1 Farmlands

The project sites do not contain any land which is designated as prime farmland.

1.4.2 Fire Stations

The project sites are not located on fire station parcels.

1.4.3 Hospital/Healthcare facilities

The project sites are not located on any hospital/health care parcels.

1.4.4 Libraries

The project sites are not located on any library parcels.

1.4.5 Schools

The project sites are not located on any school parcels.

1.4.6 Daycares

The project sites are not located on any daycare facility parcels.

1.4.7 Churches/Religious Parcels

The project sites are not located on any church/religious center parcels.

1.4.8 Cultural Centers

The project sites are not located on any cultural center parcels.

1.4.9 Cemeteries

The project sites are not located on any cemetery parcels.

1.4.10 Existing Land Use

The project site is located adjacent to the following existing land uses:

Police site – Commercial and services, open land, residential medium density, lakes.

RP Funding site – Commercial and services, industrial, open land, transportation, lakes, reservoirs, and institutional.

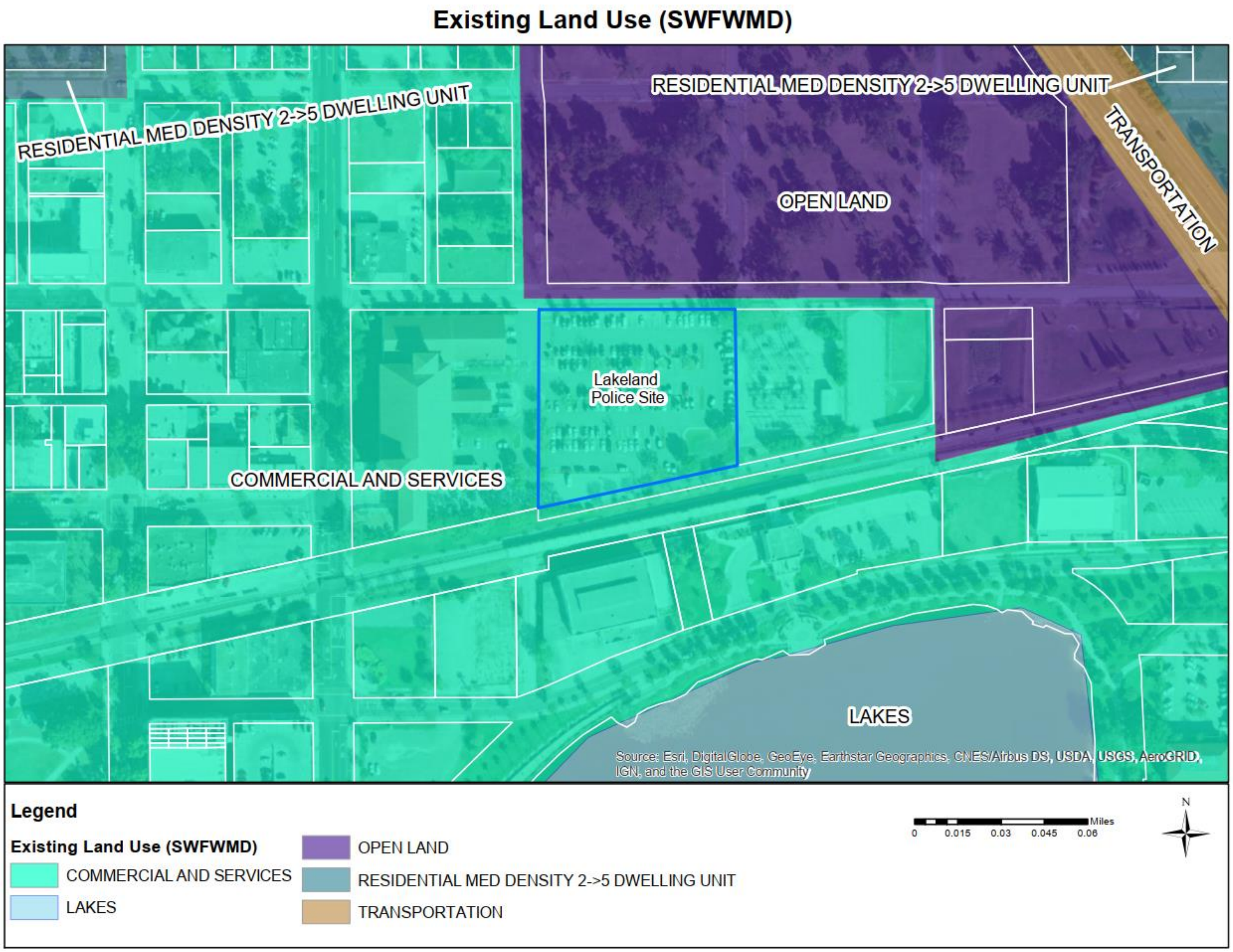


Figure 7 Existing Land Use – Lakeland Police Site

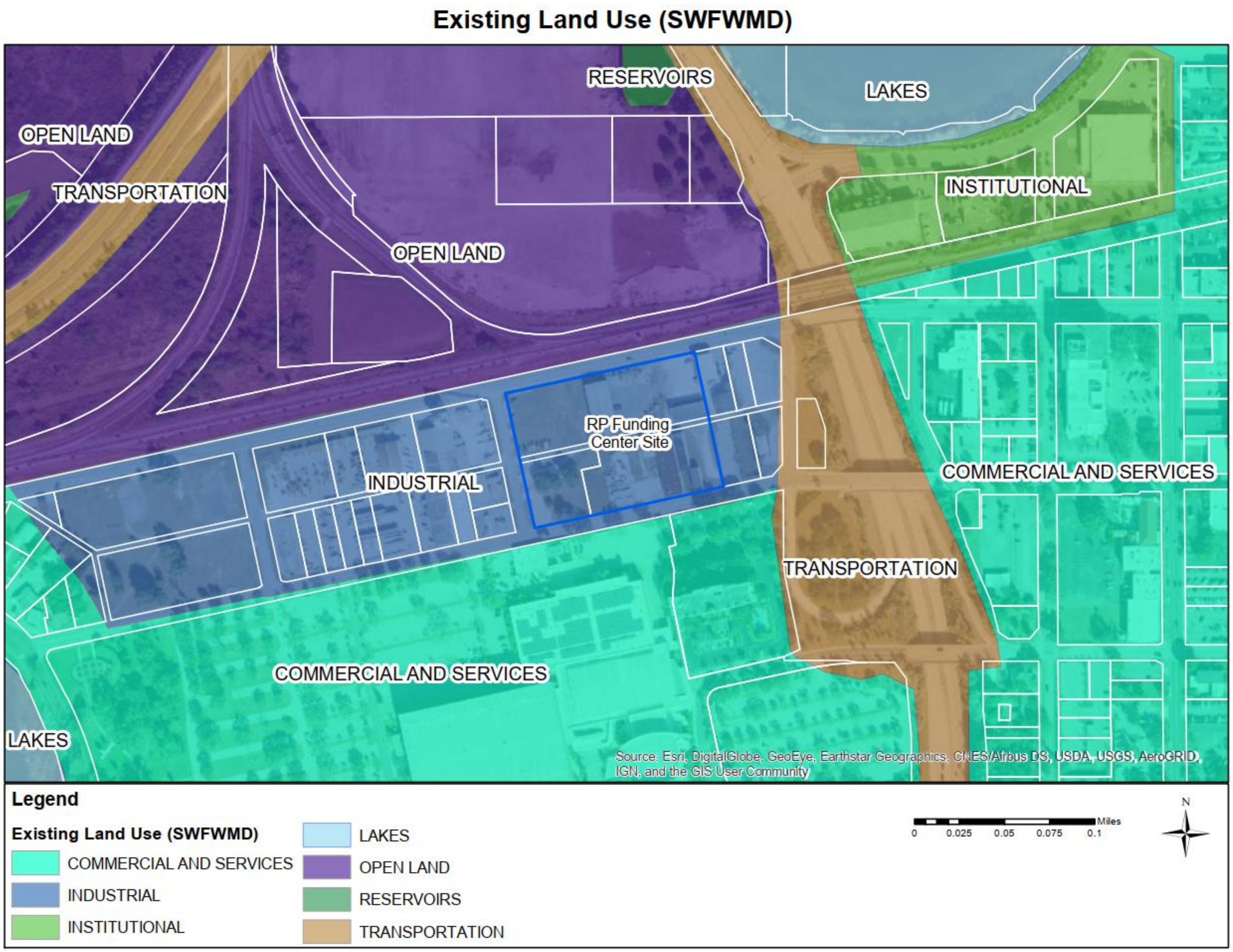


Figure 8 Existing Land Use – RP Funding Site

1.4.11 Future Land Use

Future land use for both project sites includes the "City" designation.

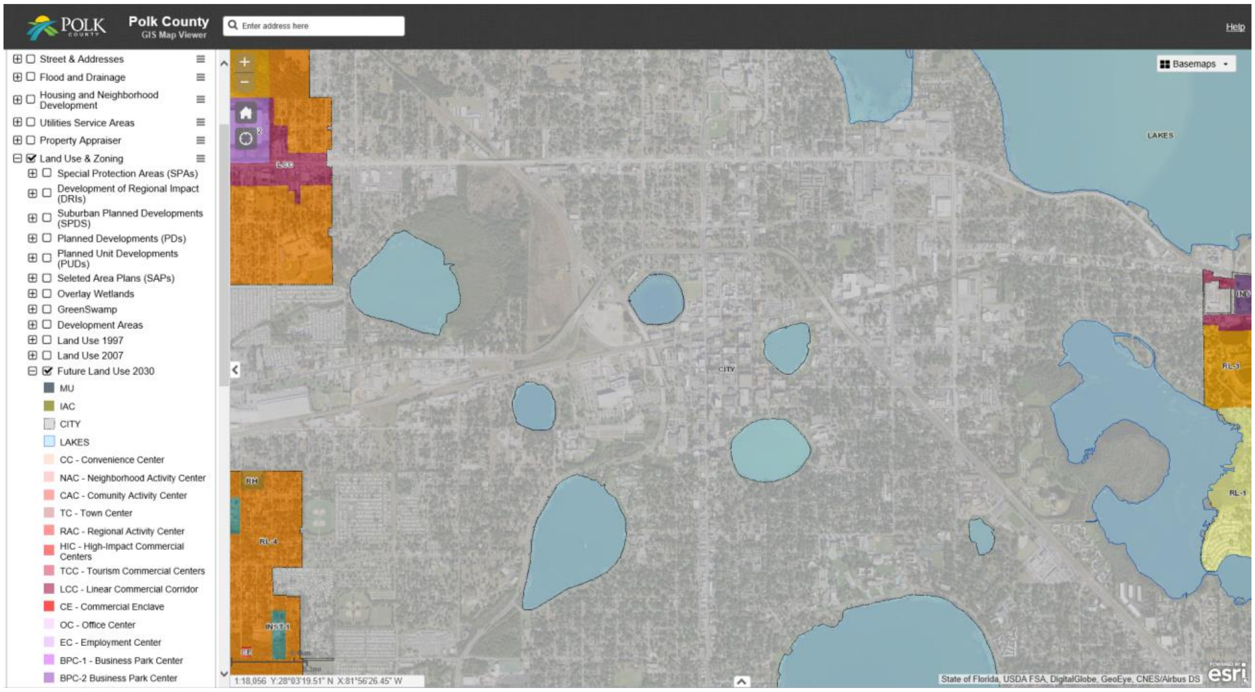


Figure 9 Future Land Use

(source: http://gisapps.polk-county.net/gisviewer/#/-81.95491/28.04283/15)

Appendix D: Amtrak/CSX, Greyhound Coordination

Amtrak

Station Program and Planning Guidelines

AMTRAK®

1. Overview

Background and Introduction

1.1 Background

Amtrak operates hundreds of intercity passenger trains every day, serving over 500 rail stations in 46 states and 3 Canadian provinces. Most Amtrak trains operate over track owned by freight railroads, and most of the stations served are owned by parties other than Amtrak, including commuter rail agencies, state and local governments, and private owners.

Amtrak rail stations range from platform-only stations to large urban mixed-use transit centers; in addition, Amtrak serves over 300 bus stop locations with coordinated service. This document is focused on rail stations but can also be used for bus facilities, where applicable. Each rail station has unique design requirements, depending on whether it serves long-distance trains, state corridor service, or High Speed Rail (HSR), or more than one of the service types. Passenger waiting areas, ticket offices, baggage handling space, amenity spaces, and other functional aspects of the station and platform are described in this manual.

Amtrak is witnessing an exciting period in its history with many changes currently underway, including:

- Rapidly growing passenger ridership and growing state corridor service;
- Changes in rail operation, with new customer service offerings and procedures such as methods of ticketing and baggage handling;
- Planned growth in High Speed Rail (HSR) in many areas of the country, often in parallel to state corridor routes;
- Procurement of hundreds of new cars and locomotives;
- Refinements to train and platform accessibility standards;
- Substantially expanded station and platform accessibility; and
- Changes in security standards and procedures

1.2 Introduction

These Guidelines are intended to assist local governments, transportation agencies and authorities, designers, Amtrak staff and other stakeholders in the planning, design, construction, rehabilitation, and redevelopment of Amtrak served passenger stations and related facilities. The guidelines presented here establish design standards and criteria for stations, platforms, and the station site, starting with governing principles, followed by information on the planning and design process, service and facility types, program requirements, station features and amenities, station finishes and architectural design. This document is intended to be used in concert with, and is complemented by, the Amtrak Engineering Stations Standard Design Practices (SDP), which provide further technical requirements, the Amtrak Graphic Standards Signage Manual and other resource documents listed in Appendix A .

This document relies, in part, upon the categorization of stations based primarily on passenger volume. Four levels of stations are defined:

Category 1: Large Stations, fully staffed, with multiple transit services and amenities;

Category 2: Medium Stations, lower levels of staff, and with some supporting transit and amenities;

Category 3: Caretaker Stations, enclosed waiting spaces but no ticket agents and only limited amenities; and

Category 4: Unstaffed Stations, platforms with only shelters and/or canopies, and no amenities

Note that these Guidelines are subject to periodic revision due to regulatory changes, changes in Amtrak policy, and other factors. When using these Guidelines, please verify that the version being used is the latest available, based on version number and date of issue. The latest version of the manual is available for download on the Great American Stations web site: GreatAmericanStations.com.

It is important to recognize that use of these Guidelines does not ensure Amtrak approval and/or agreement regarding any proposed station improvements, and does not eliminate the need for coordination with Amtrak during all phases of station design projects.

1.3 Contents of the Guidelines

These Station Design Guidelines are organized to generally follow the sequence of the design and development process, beginning with general planning and background information in the first chapters, and proceeding to more detailed and technical information in the later chapters and appendices. The contents are organized as follows:

Chapter 1: Overview - Introduces the Guidelines' content and organization, and describes the Amtrak philosophy, goals, and objectives underpinning them.

Chapter 2: Process - Discusses the Amtrak station planning and design process, including a description of the typical stakeholders with interests in the station, and financial and funding considerations.

Chapter 3: Amtrak System - Describes the types of passenger service and related equipment that serve Amtrak stations.

Chapter 4: Station Categories - Describes the four Amtrak-defined station facility types, ranging from large staffed stations to unstaffed shelters and adjacent platforms, based on annual ridership thresholds and level of staffing.

Chapter 5: Program - Describes the Amtrak station program components. Includes space and function components, relationships between components and circulation requirements.

Chapter 6: Site - Discusses multi-modal and transit oriented development, parking, sustainability, and design and security.

Chapter 7: Station - Includes guidance for all station design issues, including space programming, functional relationships, circulation elements and materials and finishes.

Chapter 8: Platform - Includes guidance for the platforms and canopies.

Appendices - The appendices included at the end of these guidelines document contain supplementary materials to assist in the design process, and are referenced in the text of the individual chapters described above.

1. Overview

Philosophy, Goals, and Objectives

The Seamless Journey

1.4 Philosophy, Goals and Objectives

Philosophy—the Seamless Journey

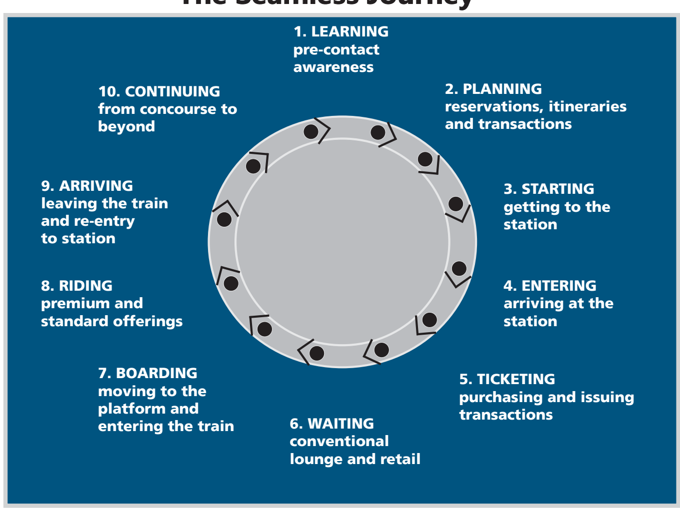
Amtrak has adopted a goal of becoming a "safer, greener, healthier" passenger railroad, and to further this goal, these Guidelines establish a number of performance metrics for station improvements:

- Passenger experience: station quality, services, and amenities, as part of the "seamless journey";
- Quality design and architecture integration of all design elements;
- Community asset: intermodal, mixed-use facilities;
- Operational efficiency;
- Flexible facilities;
- Safety and security;
- Sustainable buildings and operations;
- Universal design and accessibility; and
- Regulatory compliance.

The Station Program and Planning Guide has been developed to support the improvement and maintenance of these performance metrics.

To further the goal of delivering quality intercity passenger rail service, Amtrak has developed a philosophy of the Seamless Journey that comprises ten components of the travel experience as shown in the illustration below. The term "Seamless Journey" refers to the concept of providing service to Amtrak customers from the beginning to the end of the passenger trip. It includes delivering needed information at all points of the trip-making process; supporting simplified decision-making and choices; and providing an appealing, safe, comfortable and quality experience throughout the trip.

The Seamless Journey



The station must first and foremost serve the passenger, providing safety, comfort, expediency, and enjoyment of the travel experience. Note that most of the ten steps in the "seamless journey" take place in a station.

Quality Passenger and Visitor Experience

Objectives

Governing Principles

Quality Design and Architecture

Community Asset

Quality Passenger and Visitor Experience

As the "Seamless Journey" philosophy suggests, the Amtrak passenger experience is multi-dimensional and several parts of the journey take place at the station. Even a visitor, entering a station to buy a ticket, drop off a passenger, or obtain information, experiences multiple facets of the Seamless Journey. Because the station represents a major portion of the travel experience, it is imperative to create an environment in the station that is welcoming, functional, and clean—one that will be memorable and will encourage repeat business for Amtrak and create a civic focal point in the community.

Objectives

1. Good Service
    - From ticketing to waiting, to boarding, to riding, the passenger experiences courteous and efficient service; and
    - Station operations, back office support and baggage handling are performed with efficiency and sustainability in mind.
2. Convenient Access to the station
    - Station is a major hub in a multimodal network connecting downtown and other important places in the region.
3. Enjoyable physical environment in and around the station
    - The passenger or visitor experiences the station as a community asset or important public place;
        - Through its urban design and architectural design, the station positively contributes to the public realm; and
        - The station architecture exhibits "firmutas, utilitas, venustas"* —that is, it is solid, useful and beautiful.
            - Station sustainability in construction
            - Universal design—accessibility for all
            - Safety and security—through a CEPTED-like approach (Crime Prevention Through Environmental Design)

* From Vitruvius in his book, *De Architectura*.

1.5 Governing Principles

Quality Design and Architecture

The variety of station buildings in cities and towns across Amtrak's network is a reflection of American history and the heritage of passenger railroads. The passenger railway station typically represents a significant civic building, and the overall building form and massing often symbolizes a civic presence, with such elements as towers, colonnades, or an identifiable roof form connoting a prominent sheltered space.

The architectural character of the station should reflect that modern rail travel represents a technological achievement, and that as Amtrak grows, the image of the passenger train will grow to become more synonymous with speed, technology, efficiency, and a clean environment.

Community Asset

Integration of the station and its site into the local community is important to the success of the station and furtherance of Amtrak goals. As interest in train travel is renewed, the integration of rail service, local transit service, and the principles of smart growth and development often converge at the local train station. Train stations often serve a secondary function as community focal point. Many cities and towns that grew along with their train service still use their historical stations.

Designing the station to serve the surrounding community will help to facilitate community access to Amtrak's transportation opportunities. In addition, as Amtrak's corridor services develop and improve, many stations are being conceived as multi-modal transit centers, further enhancing the usability of both Amtrak and local and regional transit services. The station setting is an important part of Amtrak's identity.

1. Overview

Operational Efficiency

The design of the station is a significant contributor to Amtrak's operational and economic efficiency and these guidelines are formulated to help achieve the following:

- Use of durable and long-lasting materials that reduce maintenance costs and are chosen on a life-cycle basis;
- Use of building systems and design methods to reduce energy use and HVAC operating costs;
- Functional arrangement of program spaces, and provision of the correct types and sizes of spaces, to allow Amtrak staff to operate efficiently, and minimize staffing requirements at each station; and
- Efficient movement of passengers through the station, and especially on and off trains and platforms.

Flexible Facilities

As Amtrak plans for the future, it will be important to foresee the impact of system changes on the passenger rail station. Some of the significant planning issues that these guidelines address include:

- Planning to achieve intercity passenger rail stations as multi-modal transit hubs at the center of mixed-use urban districts;
- Planning to allow elimination of at-grade pedestrian track crossing to platforms (a need that grows with higher frequency service and HSR);
- Planning to provide greater levels of controlled access to platforms for security as service levels are differentiated;
- Amtrak efforts to expand and improve its baggage operations; and
- Future growth of high speed rail.

Safety and Security

Amtrak is continually striving to improve the safety and security of the railroad. This goal can be furthered in the station through consideration of active and passive security measures including:

- Separation of public and private spaces within the station and site;
- Providing good visibility of public spaces to customers and employees, with good lighting and no "hidden corners";
- Providing for active control surveillance at station spaces in-person by Amtrak Police and by remote monitoring;
- Planning space for passenger and baggage screening at appropriate locations;
- Site design that controls vehicular access to spaces within and near the station and platforms; and
- Placement of appropriate security and safety signage.

Sustainable Buildings and Operations

Amtrak organizes its sustainability efforts around the following strategies, which are emphasized in these guidelines:

- Energy Efficiency - Minimize energy consumption, produce power on-site, and replace energy produced by fossil-fuel based sources with renewably generated power;
- Sustainable Materials and Resources - Utilize recycled and locally sourced energy;
- Water Conservation - Utilize efficient fixtures and automatic controls, design to reduce water consumption and waste generation. Both storm water and potable water management need to be examined;
- Site Management - Consider the impacts of landscaping, paved surfaces, and building orientation;
- Indoor Air Quality - Ensure good ventilation and choose materials that are selected to eliminate release of volatile organic compounds (VOCs); and
- Recycling - Provide collection at all stations and on trains.

Operations and maintenance practices are also very important to achieving sustainable buildings. Practices to ensure longevity and efficiency of a station's mechanical and electrical systems, lighting, and other systems.

Universal Design and Accessibility

In the transit environment, barrier-free design is of particular importance, and encompasses persons with disabilities of all kinds, including those who are non-ambulatory, those with difficulty walking, older people, the visually hearing or impaired, children, pregnant women, and those temporarily restricted due to illness or injury. The great advantage of universal barrier-free design in transit stations is that it aids all travellers, removes restrictions on circulation, and reduces injuries to station users. For these reasons, Amtrak places particular emphasis on barrier-free universal design in its stations.

Historic Preservation

Many Amtrak stations have achieved historic status and are listed on the National Register of Historic Places and/or state historic preservation lists. Amtrak policy encourages flexibility in balancing preservation of historic structures with accommodation of functional requirements of an operating 21st century passenger rail station. Stakeholders are encouraged to investigate the historic status and listing eligibility of an existing structure being considered for renovation. Note that listed or eligible structures that are renovated using federal funds are subject to Section 106 review.

Regulatory Compliance

This manual is not intended to be a substitute for investigation of, nor to provide any waver of compliance with, all regulations applicable to any proposed station improvements. Users of this manual must comply with all applicable federal, state and local regulations, including but not limited to the following:

- Construction codes;
- Zoning and permitting requirements;
- Federal and state environmental approval processes;
- Federal, state and/or local historic preservation laws and regulations including Section 106 of the National Historic Preservation Act of 1966 (NHPA); and
- Fire protection codes and standards including NFPA 130.

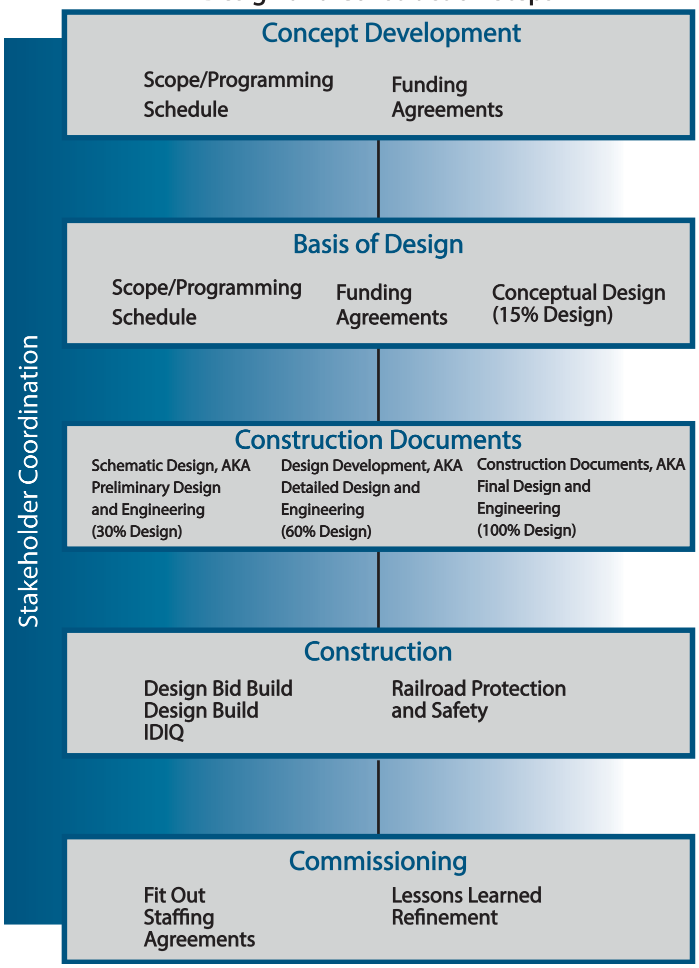
2. Process

Introduction

2.1 Introduction

The planning and design of a new station or renovation to an existing station can involve a number of complex issues that need to be carefully coordinated. They include determining the ridership, funding, ownership, operations, programming, design, construction, and implementation of the project. This chapter provides guidance regarding the stakeholders that may be involved in a project, and describes the planning process Amtrak follows from the concept stage through design, construction, and commissioning.

Design and Construction Steps



To ensure a logical design and construction process, Amtrak has defined five key steps:

1. Concept Development;
2. Basis of Design;
3. Construction Documents;
4. Construction; and
5. Commissioning.

These steps include key planning, design, financial, funding, approval and community participation milestones. This process is applicable to both station renovations and new construction.

Stakeholder Coordination

2.2 Stakeholder Coordination

The station development process can involve a range of stakeholders including Amtrak, federal and state agencies, communities and developers. The project management plan must ensure a process that takes into account all required stakeholders, at the right time in the project.

Stakeholders typically involved in the development process include:

Amtrak

Amtrak has multiple departments and groups that are critical to project progress. As states and communities begin to undertake the task of working on a station, their efforts will generally be coordinated with the Government Affairs Department and the Stations Planning group within the Real Estate Department. These departments will provide a point of contact for the development team, and will ensure that the project receives input from the critical areas of expertise within the Amtrak organization, including Engineering, Transportation, Operations, Real Estate, Legal, Emergency, Managment and Corporate Security, Amtrak Polic and Host Railroads. As a project progresses the Amtrak lead may transfer between departments based on resources and focus of coordinating efforts.

United States Department of Transportation (USDOT)

USDOT may become involved in a station project through one or more channels. The Federal Railroad Administration (FRA) is responsible for rail safety regulation and enforcement, but also provides funding for some types of rail projects; both grants and loans may be available from FRA for a given intercity rail passenger station project. Equally important, USDOT directly, and through FRA, promulgates guidelines and rules that affect passenger station platform design. In addition to FRA, the Federal Transit Administration (FTA) could become involved as a funding source if partners in the station project include a commuter railroad or transit agency. Similarly, the Federal Highway Administration (FHWA) could also be a source of funds for projects including bus or parking facilities.

United States Department of Homeland Security

The Transportation Security Administration (TSA) has jurisdiction over security at rail passenger stations. Amtrak can coordinate communication between project sponsors and TSA, as appropriate.

State Departments of Transportation (DOT)

Many state DOTs are routinely involved in funding of stations and funding of state-supported services. State DOTs are also typically responsible for preparation or update of a State Transportation Improvement Plan (STIP) that is reviewed by federal agencies to get federal funding. Amtrak looks for inclusion of new rail service and station projects in STIPs as a basis for consideration of adding new service locations.

Regional and Local Transportation Authorities

The participation of local transportation authorities will be particularly relevant where intermodal and multi-modal facilities are planned. The development of, or changes to, a station may impact local transportation operations, financial support, and service agreements.

Host Railroads

The majority of Amtrak's routes run on infrastructure owned by freight railroads, each of which has its own sets of requirements that can impact station design and planning. The host (owning) freight railroad must approve station development plan elements that are on or immediately adjacent to that right-of-way. Platform design and canopy clearances require review and approval by the host railroads.

Real Estate Developers

As communities increasingly strive for mixed use development organized around intermodal transit hubs, real estate developments, including public-private partnerships, have become more crucial to achieving station program success.

Concept Development

Project Scope and Architectural Program

Schedule

2.3 Concept Development

Renovation and construction projects at all stations are initiated through a process that begins with concept development. Concept development includes definition of the scope, schedule, funding, agreements, and the management process for the project. Taken collectively, these will become the Basis of Design (BOD). The concept development phase should be used to identify existing and/or needed capital and operating agreements among project participants, and the management process for completing the detailed design and construction process. Concept Development will typically require 6 to 15 months, depending on the size and complexity of the particular station environment. The key steps in the concept development phase include:

Project Scope and Architectural Program

The project scope and architectural program (functional requirements and facility sizing) should be jointly determined by Amtrak and project stakeholders, including the host railroads, station owners, local government entities, and should include input from passenger interest groups and disabilities groups. Amtrak program requirements are based on projected ridership levels and the type of rail service provided at the station. The functional requirements for each station must be reviewed with the various stakeholders prior to beginning design of the station. Amtrak typically coordinates internal reviews by various stakeholders within Amtrak, including station and district operations, and corporate management. In addition, Amtrak generally coordinates with the host railroad and acts as an intermediary for the project sponsor to obtain host railroad approvals for station projects Requirements must also be reviewed by sponsoring and funding authorities, which may include the Federal Railroad Administration, the Federal Transit Administration, state and local governments, community organizations, and private parties. At existing stations requiring renovations, the programming task should take into account an assessment of requirements that are needed to achieve accessibility as defined under the Americans with Disabilities Act (ADA) and any applicable state accessibility standards. Depending on age and listing status of an existing station on the National Register of Historic Places, as well as state and even local registries of historic structures, consideration of historic preservation issues and interaction with the State Historic Preservation Office (SHPO) may be required. Finally, the program should define expansion to accommodate future growth. As demand for rail services is expected to grow, the station may “graduate” from a station category type associated with lower ridership levels to a station category type with higher ridership levels and service frequency.

Schedule

Following directly from the definition of the scope of work is development of an implementation plan and schedule. Developing the full project schedule is an important step in concept development, especially where more complex projects require coordination among varying entities. The critical milestones in the schedule need to be determined early in the process, and an assessment performed of needed periods for project review. The schedule is typically developed as a Gantt chart for smaller stations, but can become a full-scale critical path diagram for complex, larger projects involving many aspects. Initial schedules should allow for needed phasing to support continuation of customer service if an existing station is being renovated or modernized.

2.4 Funding

Amtrak's capital funding is derived from Congressional appropriations and subsequent grants from the Federal Railroad Administration. Historically, very limited funding for station development has been available at the federal level, and most station improvements have advanced solely on the basis of local, state, or other non-Amtrak funding.

Public Funding

Station projects are typically funded by state and local partners. Amtrak also allocates a portion of its Congressional appropriation of capital funds for station projects, but funds are limited, and typically overcommited. Supplementary funding may include federal or state grants or loans, direct contributions of municipal funds, or contributions from local property owners or development entities.

Joint Development and Public Private Partnerships

Communities are increasingly realizing the importance of joint development, in which private developers invest in the station project as part of a broader community development process including Amtrak, state and local governments, and non-profit organizations. In the joint development approach, Amtrak and its local partners supply value (such as access to land, space within the station for commercial development, lease payments, or eligibility for tax incentives) to for-profit developers, in return for capital funds for station rehabilitation or construction.

Public/private partnerships are useful tools in joint development projects. Amtrak has a history of working with states, municipalities, and private enterprises to improve train routes, station facilities, and other assets. In developing and renovating stations, such alliances and partnerships can be particularly advantageous. Where one group alone might not be able to accomplish both the required and desired scope, a partnership may be able to succeed. In addition, a partnership can sometimes implement funding solutions that would be unavailable to the individual parties. A partnership also can benefit from other forms of investment, such as property, professional or technical services, or assumption of responsibility for operating and maintenance expenses. In many partnerships, responsibilities extend beyond the station building and also include parking, passenger accessibility, landscaping, security, and platform maintenance. Many examples of successful partnerships can be found in the restoration of historic stations and adaptive reuse by state, local and private entities.

Additional Funding Sources

Funding sources that can be considered for station development include revenue bonds, grants, loans, and tax incentives. Possible federal funding sources include transportation grants, ADA specific grants, community development grants, energy efficiency grants, historic preservation grants, planning and demonstration programs, and federal tax incentives. These funding sources, along with additional financial and funding considerations, are discussed in Appendix P.

Agreements

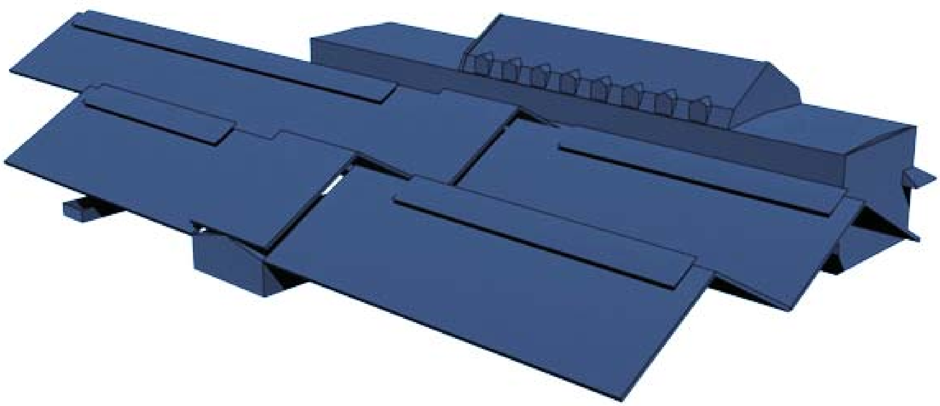
Agreements between Amtrak and the project partners define the roles and responsibilities of the various project partners that are needed to build, maintain, and operate the station. Two essential parts of the project agreement must be defined: capital funding and operations. Both capital and operating agreements should include a definition of the relationships among Amtrak, the host railroad, and the locality. The types of agreements typically required in a station development project include:

- Lease and Sublease;
- Operations and Maintenance Agreements;
- Funding Agreements;
- Reimbursement Agreements or Term Sheet; and
- Force Account Agreements.

2.5 Real Estate Transactional Documents

Based upon specific circumstances surrounding a given station development project, and the roles and interrelationships between and among the various project stakeholders, several agreements may be necessary to facilitate project implementation. Among these would be at least one agreement that governs Amtrak's access to, and use of, the station facilities. Such an agreement can take the form or a lease, or an easement, and would necessarily address – among other things – cost, if any, to Amtrak, and indemnification, including environmental indemnification. Development of such necessary agreement(s) would be led by the Amtrak Real Estate Development Department, and would subsequently involve the Amtrak Law Department.

2.6 Basis of Design



In the Basis of Design (BOD) phase, the project conceptual design is developed. The level of design completion for this phase typicallyis typically 15 percent and includes the schematic design. While the BOD is advanced on the foundation developed during the concept development, it also includes an analysis of building codes, design standards, site constraints, and development of design alternatives sufficient to enable selection of a single, preferred alternative.

This phase represents a significant milestone and establishes the fixed size of the building and architectural program, the architectural concept, materials selection, and general direction of the project.

At this phase, Amtrak will review design documents proposed by partners and/or their consultants. These would include drawings, selected specifications and conceptual level schedules and budget. Also at this phase, Amtrak would provide resource documents including the Standard Design Practices, standard drawings and specific requirements.

Construction Documents

2.7 Construction Documents

The detailed design phase culminates in 100 percent construction documents, and includes the traditional phases of design development and construction document preparation, including plans, specifications, and cost estimates. For larger, more complex stations, detailed design will include the procurement of the service of an architectural/engineering (A/E) firm. Smaller station designs still require the use of an A/E firm, albeit at a much smaller level of effort, to adapt the standard station designs Amtrak has already developed, or may otherwise make use of Amtrak Standard Design Materials.

The transition between the BOD phase and the Detailed Design phase can vary. Station size is an example of this variability as smaller, less complex stations will often be taken to a schematic design level (traditionally considered a 25 percent design) during BOD, while larger and more complex stations may only reach schematic design completion as the first step in the Detailed Design phase.

The sub-phases within the design process, which correspond to the milestones when Amtrak expects to review documents include:

- Conceptual Design – 15% Design (typically included in BOD);
- Schematic Design - 30% Design, AKA Preliminary Design and Engineering;
- Design Development - 60% Design, AKA Detailed Design and Engineering; and
- Construction Documents - 95%-100% Design, AKA Final Design and Engineering (included in bid package).

Each of these steps of design includes a construction cost estimate and project schedule, the level of detail of which corresponds with the level of design. Particular attention needs to be paid to early phase submission of platform plans, including horizontal and vertical clearances; ticket counter plans; signage plans, including passenger information display systems; and data and communication plans.

2.8 Project Delivery methods

Station design and construction projects that are led by Amtrak partners may employ various project delivery methods, subject to state and local limitations. For projects where Amtrak is responsible for leading the design and construction, Amtrak typically employs one of these project delivery methods: design-bid-build, design-build, or a task order under an indefinite delivery indefinite quantity (IDIQ) contract.

The typical design and construction approach follows the design-bid-build project delivery system, where separate and distinct contracts are prepared—one for the design phase, and a second for the construction phase. Alternatively, the design-build approach can be utilized, where both design and construction are performed under a single contract by a design-build firm. IDIQ contracts are used, in combination with specific task orders to have pre-qualified contractors complete smaller scale repairs or improvements.

Regardless of whether the project is led by an Amtrak partner or by Amtrak, and regardless of the project delivery methods, the project sponsor should be aware that any work to be performed may be subject to existing labor contracts within the relevant state departments of transportation, host railroads, or Amtrak.

Project Delivery Methods

Design-Bid-Build

Design-Build

Indefinite Delivery Indefinite Quantity (IDIQ)

Design-Bid-Build

The design-bid-build process includes procurement of the services of both a project designer and a construction contractor, and will often also include a construction management firm for more complex projects. On large station projects, the design-bid-build process will typically require an average of five years to complete. Approximately 206 of the stations that Amtrak serves are anticipated to follow this approach to complete future improvements.

Design-Build

For the design-build project delivery system, a single contractor handles both the detailed design and the construction, allowing for a reduced schedule as portions of the construction can proceed while other parts of the design are still in progress. This approach relies on developing a complete schematic design at the beginning of the project in the Concept Development phase, so that the expectations of the project sponsor—in most cases presumed to be Amtrak—are clear, and the design-build contractor has a more complete specification of the work to be completed. As the procurement requires only a single contractor in the design-build scenario, the overall schedule for these projects is generally reduced relative to design-bid-build. From start to finish this project delivery approach would be expected to average three years.

Indefinite Delivery Indefinite Quantity (IDIQ)

A simplified, task-order contracting system can be employed for multiple, minor improvements and alterations associated with an individual station or group of stations. One or more job order contracts are competitively bid (usually according to region of the country), resulting in a fixed unit price contract against which work orders can be issued for specific needs. As designs are completed for improvements at a particular station, specific work orders can be issued to a task-order contractor to achieve the needed alterations. The duration for these smaller station projects from start to finish is generally about 18 months.

Railroad protection and safety is an essential element of almost all construction projects. Personnel working on or in proximity to railroad property must undergo safety training. In addition, railroad-provided personnel are required to provide flag protection when construction work is being performed on or near the tracks. The costs of such training and protection must be included in any station project.

Commissioning

Station Opening

2.9 Commissioning

The process of Commissioning is the final step in assuring that a newly renovated or constructed station is ready to be placed into operation. Commissioning begins with inspections performed during construction. These inspections ensure that the correct materials and components have been delivered and subsequently applied or installed. Once construction is essentially complete, additional inspections and approvals are required. These range from Amtrak inspection and acceptance, to owner's "punch list" of exceptions to be resolved by the construction contractor(s), to inspections required by local jurisdictions, such as are necessary for issuance for a certificate of occupancy.

The commissioning process is provided in Section 01-91-00 of the Amtrak Standard Design Practices.

2.10 Station Opening

Fit out of the station, including installation of seating and other passenger amenities and Amtrak equipment, may require coordination of multiple vendors within a tight time frame to meet station opening schedules. Amtrak Division and local staff work closely with project sponsors to assure an efficient and smooth opening. Government Affairs and Corporate Communications assist with passenger communications and events. Coordination of train schedules, activating systems, notifying stakeholders, and purchasing or moving Amtrak office and support equipment are tasks that must be considered in developing project schedules.

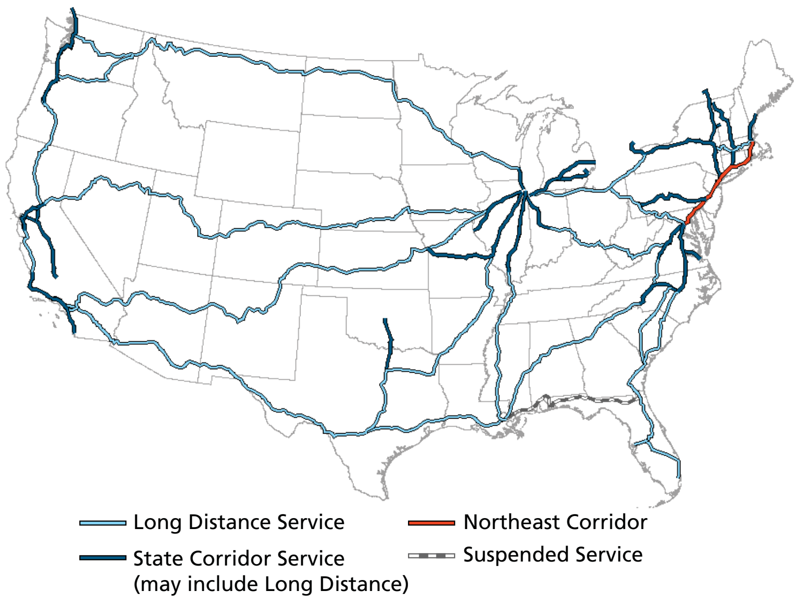
3. Amtrak System

3.1 Introduction

Introduction

The characteristics of the Amtrak passenger rail system are important factors in station, site, and platform design. This chapter introduces some of the basic functions of the Amtrak system including:

- Service Types;
- Equipment Dimensions;
- Train Consists; and
- Operations.



In addition to the identified corridor services, USDOT has also designated High Speed Rail corridors for future development, as described in section 3.2.

While rail operations and system planning are beyond the scope of these guidelines, an understanding of some of the characteristics of the Amtrak system and railroad operations in general are useful for understanding the functional needs of a station. The trains themselves also establish important dimensional requirements for station and platform design.

The variety of passenger and freight train operations in the U.S. has a significant impact on the development of Amtrak passenger rail stations, from design considerations such as clearances, to safety considerations during construction, to a variety of safety and functional considerations during ongoing operations. At stations where not all passenger trains stop, such trains may pass a station platform at speeds of 70 – 110 MPH outside the Northeast Corridor (NEC), and as high as 150 MPH in the NEC. The combination of speed, platform configuration, and visibility of approaching trains may require devices on platforms to warn passengers of an approaching train. Similarly, freight trains may pass a passenger platform at speeds from as slow as a walk to as high as 70 MPH. In addition, the proximity of a freight yard or freight customer side track may affect the design of a station, or even the viability of its proposed location. Consequently, it is important to understand the character of railroad operations, both passenger and freight – and both existing and potential - early in the station development process; Amtrak, through its Host Railroads Department, can provide initial insight, and the affected host railroad(s) will necessarily become involved soon thereafter.

Amtrak serves over 800 locations, including over 500 rail stations and numerous bus connections that extend the reach of Amtrak's rail network. Amtrak ridership is concentrated on select parts of the network, with approximately 75% of riders using the top 50 rail stations in the system. However, because passenger rail service is provided to a range of environments, including high-density urban areas and low-density rural areas, a wide variety of station types is necessary—from fully staffed, multiple platform stations to unstaffed, rural facilities that often consist of only a platform.

In planning a station, required circulation space, waiting areas, baggage handling and storage, ticketing, platform heights and length, parking, and other design elements are all linked to the specific service and equipment operated at the particular station location.

Service Types

Northeast Corridor

Acela Express®

High Speed Rail

3.2 Service Types

Northeast Corridor

The Northeast Corridor (NEC) is the centerpiece of the Amtrak system—a high speed railroad developed over the course of a mulityear partnership between Amtrak, the federal government, commuter railroads and states. The NEC and connecting network supports a daily schedule of more than 2,200 trains, including 154 Amtrak trains. On each of its major routes (New York–Washington, D.C. and New York–Boston), Amtrak now carries more passengers than all of the airlines serving these routes, and Amtrak's share of the air-rail market from the endpoints to intermediate cities, such as Philadelphia, is even larger. *Northeast Regional*SM trains operate between Washington, D.C., Boston and Springfield, Mass., and Richmond, Va. using Amfleet single-level equipment, including coach and business class service with a cafe car. Checked baggage service is currently not provided on *Northeast Regional* service.

Acela Express

Amtrak's *Acela Express* offers premium, limited stop service between Boston, New York, and Washington, featuring Amtrak's highest speed trains. *Acela Express* service includes both business class and first class, with a cafe car. Checked baggage service is not provided on the *Acela Express.*

High Speed Rail

While Amtrak's *Acela Express* trains currently achieve speeds as high as 150 mph, future "next generation" HSR trains are anticipated to achieve speeds as high as 220 mph. Relevant considerations include:

- Planned HSR systems in the US, such as in California, will operate on dedicated HSR-only track. The next generation HSR in the Northeast Corridor may, at least during the incremental implementation period, share track with other trains.
- Even HSR with dedicated right-of-way will still need to connect with existing conventional intercity passenger rail, commuter rail, and local streetcar and transit systems. As a result, HSR systems are expected to share existing stations or new stations with existing intercity services.

State Corridor Service

State corridor routes are defined as routes of less than 750 miles, providing intercity, short haul service, with one to 16 weekday trains in each direction. Passengers on the Northeast Corridor or State Corridor routes are usually frequent travelers who arrive at the station closer to their departure time, with few or no checked bags, and park for the day. The trains do not include sleeper cars, and typically do not have checked baggage service. Amtrak operates corridor service in 22 states, with annual ridership of over 14 million passengers on approximately 200 daily trains. Amtrak corridor services trains operating in the northeast use Amfleet equipment, while trains in the mid-west generally use Horizon Fleet cars. Amtrak corridor services in California use California Cars or Surfliner equipment, and the Cascades Corridor service in the Pacific Northwest uses Talgo equipment. Some corridor services use Superliner equipment seasonally, while the Heartland Flyer uses them year-round.

State-Supported and Other Short-Distance Routes

Route Name	Endpoints	
Adirondack®	New York NY	Montreal QC
Amtrak® Cascades®	Eugene OR	Vancouver BC
Amtrak Downeaster SM	Boston MA	Portland ME
Blue Water®	Chicago IL	Port Huron MI
Capitol Corridor®	San Jose CA	Auburn CA
Carolinian®	Charlotte NC	New York NY
Carl Sandburg/Illinois Zephyr	Quincy IL	Chicago IL
Ethan Allen Express®	New York NY	Rutland VT
Empire Service®	New York NY	Albany NY/Niagara Falls NY
Heartland Flyer®	Fort Worth TX	Oklahoma City OK
Hiawatha® Service	Chicago IL	Milwaukee WI
Hoosier State®	Indianapolis IN	Chicago IL
Illini® and Saluki®	Carbondale IL	Chicago IL
Keystone Service®	Harrisburg PA	New York NY
Lincoln Service	Chicago IL	St. Louis MO
Northeast Regional (Virginia Services)	Newport News VA	Boston MA
Northeast Regional (Virginia Services)	Lynchburgh VA	Boston MA/Springfield MA
Maple Leaf®	New York NY	Toronto ON
Missouri River Runner	St. Louis MO	Kansas City MO
Pacific Surfliner®	San Diego CA	San Luis Obispo CA
Pennsylvanian	Pittsburgh PA	New York NY
Pere Marquette®	Chicago IL	Grand Rapids MI
Piedmont®	Charlotte NC	Raleigh NC
San Joaquin®	Bakersfield CA	Sacramento CA/Oakland CA
Springfield Shuttle	New Haven CT	Springfield MA
Vermonter SM	Washington DC	St. Albans VT
Wolverine® Service	Chicago IL	Pontiac MI

3. Amtrak System

Long Distance Service

Auto Train

Long Distance Service

Amtrak currently operates 15 long distance trains, covering 18,500 route miles and serving 41 states, providing an important transportation link for many rural communities across the country. Long Distance Service is defined as a route greater than 750 miles, and generally consists of one train per day in each direction. These routes each pass through anywhere from 3 to 12 states, and use freight railroad track for 95 percent of their route mileage. Sleeper service is provided, as well as checked baggage (at select stations). Amtrak Long Distance Services use Superliner or Viewliner equipment. The east coast long-distance services (*Lake Shore Limited®, Cardinal®, Crescent®, Palmetto®, Silver Meteor®,* and the *Silver Star*®), utilize Viewliner and Amfleet single-level equipment. All other Long-Distance trains use Superliner bi-level equipment. Long Distance train consists are Amtrak's longest, with anywhere from 7 to 14 cars comprising trains up to 1,200 feet long.

Auto Train®

The *Auto Train* is a unique service that allows travelers to take their personal vehicles with them. The train utilizes Superliner equipment and travels non-stop between Northern Virginia and Central Florida daily.

Long Distance Routes

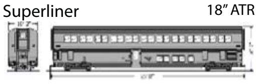
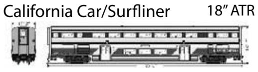
Route Name	Endpoints	
Auto Train®	Sanford FL	Lorton VA
California Zephyr®	Chicago IL	Emeryville CA
Capitol Limited℠	Washington DC	Chicago IL
Cardinal®	New York NY	Chicago IL
City of New Orleans®	New Orleans LA	Chicago IL
Coast Starlight®	Los Angeles CA	Seattle WA
Crescent®	New York NY	New Orleans LA
Empire Builder®	Chicago IL	Portland OR/Seattle WA
Lake Shore Limited®	New York NY/Boston MA	Chicago IL
Palmetto®	Savannah GA	New York NY
Silver Star®	Miami FL (via Tampa FL)	New York NY
Silver Meteor®	Miami FL	New York NY
Southwest Chief®	Chicago IL	Los Angeles CA
Sunset Limited®	New Orleans LA	Los Angeles CA
Texas Eagle®	Chicago IL	San Antonio TX/Los Angeles CA

3.3 Equipment

Passenger Car Types

The Amtrak system currently operates with equipment types that are a result of the different types of rights-of-way (ROW) that Amtrak shares with other railroads across the country and a legacy of equipment used at Amtrak's inception over 40 years ago. Amtrak passenger cars consist of either a bi-level design, with a low-level entry floor height, or a single-level design, with a high-level entry floor height. Both single level and bi-level equipment will continue to be used into the future.

Passenger Cars

Name	Deck Height	Dimensions	Occupancy Per Car	**Location Used**	Other
Bi-Level Passenger Cars					
Superliner 	18" ATR	85' L, 16' H, 10' W	74 coach/ 40 sleeper	Long Distance Routes not out of New York or Boston	Variations include sleeper, diner, lounge, baggage, coach, arcade
California Car/Surfliner 	18" ATR	85' L, 16' H, 10' W	70 – 90	California	Provides extendable wheelchair lift. Two sets of automatic doors speed passenger boarding. Owned by the state of California.
Single-Level Passenger Cars					
Amfleet 	51" ATR	85' L, 13' H, 10' W	60–70	East Coast	Traps in vestibule enables car to serve low level platforms
Horizon 	51" ATR	85' L, 13' H, 10' W	60–70	Michigan, Missouri Wisconsin, Illinois	Traps in vestibule enables car to serve low level platforms
North Carolina Coach 	51" ATR	85' L, 13' H, 10' W	55–65	North Carolina	Traps in vestibule enables car to serve low level platforms, owned by NCDOT Rail Division
Viewliner Sleeper 	51" ATR	85' L, 14' H, 10' W	30	East Coast	Traps in vestibule enables car to serve low level platforms, extra windows for person in top bunk
Acela 	51" ATR	85' L, 14' H, 10' W	299 (Per Trainset)	Northeast Corridor	Only service with first class seating Tilts to go around curves faster
Talgo 	24" ATR	43' L, 11' H, 10' W	269 (Per Trainset)	Pacific Northwest	Tilts to go around curves faster. Provides extendable wheelchair lift and extendable step. Owned by the State of Washington.

Important characteristics include:

- Bi-level equipment has a nominal floor height of 18 inches above top of rail (ATR) that works well on shared passenger/ freight routes where the freights have clearance requirements limiting platform heights to 8 inches ATR;
- Because low level equipment is bi-level, it has approximately 30% more capacity for the same train length than high floor equipment, but presents ADA access challenges;
- Bi-level equipment has one or two sets of doors per side on the lower level of each car;
- Single level high floor equipment has a nominal floor height of 51 inches ATR and is primarily used on the east coast where tunnels limit vehicle heights;
- Single level equipment allows more efficient movement between cars and boarding/ deboarding at 48 inch platforms; and
- Single level equipment have steps at each exit door that may be used to serve low level platforms.

The equipment variations can be important factors for platform design and planning. For instance, stations which serve both Superliner and Acela or Amfleet equipment, which require different platform heights, should ideally be constructed with separate platforms, or if necessary, with two platform sections of different heights, to achieve level boarding for each equipment type.

Equipment

Passenger Car Types

Talgo equipment used in the Amtrak Cascades service is unique among Amtrak rolling stock and serves only the Amtrak Cascades Service

Equipment

Locomotive Types

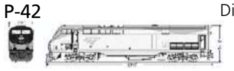
Equipment operated by Amtrak is subject to change and current information should be requested from the Amtrak project lead.

Locomotive Types

Although they do not carry passengers, locomotives are relevant to platform design in the context of platform length, to provide for safe and easy access from the locomotive cab to the platform and vice-versa, where crew changes are scheduled to take place. Similarly, baggage cars must be safely and easily accessible from the platform at stations where checked baggage service is offered.

Equipment operated by Amtrak is subject to change and current information should be requested from the Amtrak project lead.

Locomotives

Name	Type	Dimensions	Top Speed	Location Used	Other
Acela Power Car 	Electric	69' L, 14' H, 10' W	150 mph	Northeast Corridor	Fastest locomotives in the country
AEM 7 	Electric	51' L, 14' H, 10'W	125mph	Northeast Corridor, Keystone Corridor	
HHP 8 	Electric	65' L, 14' H, 10' W	125 mph	Northeast Corridor	
P-42 	Diesel	69' L, 14' H, 10' W	110 mph	Nationwide	Variation used in New York utilizes electric 3rd rail
F59 	Diesel	58' L, 15' H, 10'W	110 mph	California, Oregon, Washington, North Carolina, California	Owned by California, Washington, and North Carolina, which use specific paint schemes

Equipment

Train Consists

Train Consists

The arrangement of passenger coaches, sleepers, dining and lounge cars, baggage cars, and locomotives that make up a train is defined as the "consist". Special trains, like the Acela Express and the Amtrak Cascades, are made up of semi-permanently attached cars, called a "trainset". Understanding Amtrak's equipment and consists is important in developing a station's site and platform design. Specific service types, equipment types, and consists should be determined for each station project, and it should be understood that train consists can change over time to accommodate changes in service types and demand.

Sample Long Distance Train Consists

Long Distance Routes	Locomotives	Baggage	Diner	Lounge	Coaches/ Sleepers	Length (ft.)
Auto Train	2 Diesels	0	3	2	12 Superliner 34 Autocarrier	4303
California Zephyr	2 Diesels	1	1	1	5 Superliner	818
Capitol Limited	2 Diesels	1	1	1	6 Superliner	903
Cardinal	1 Electric/ 1 Diesel	1	1	0	3 Amfleet 1 Viewliner	575/579
City of New Orleans	1 Diesel	0	1	1	5 Superliner	664
Coast Starlight	2 Diesels	1	1	2	8 Superliner	1158
Crescent	1 Electric/ 2 Diesels	1	1	1	4 Amfleet 2 Viewliner	830/903
Empire Builder	2 Diesels	1	1	1	9 Superliner	1158
Lake Shore Limited	2 Diesels	2	1	1	6 Amfleet 3 Viewliner	1243
Palmetto	1 Electric/ 1 Diesel	1	1	0	4 Amfleet	575/579
Silver Meteor	1 Electric/ 2 Diesel	1	1	1	4 Amfleet 3 Viewliner	915/988
Silver Star	1 Electric/ 2 Diesel	1	1	1	4 Amfleet 2 Viewliner	830/905
Southwest Chief	2 Diesels	1	1	1	6 Superliner	903
Sunset Limited	2 Diesel	1	1	1	6 Superliner	903
Texas Eagle	1 Diesel	0	1	1	8 Superliner	919

NOTE: When both electric and diesel equipment is indicated, locomotives are switched at the end terminal of electrified service.

3. Amtrak System

Operations

Crew Bases and Service Inspections

3.4 Operations

Crew Bases and Service and Inspection

Amtrak trains operate under demanding conditions and there are a number of servicing requirements for the equipment, as well as routine operational activities that are accommodated in the system. While the vast majority of Amtrak-served stations are not impacted by these operational considerations, as passenger rail traffic grows, and in order to provide a safe and efficient system, operations issues will have greater impacts on station design. Operations considerations include:

- Crew change: There are 53 crew bases around the country where engineers or conductors begin and/or end their shift;
- Crew Bases: include locker and shower facilities. In most locations the crew base is inside or in close proximity to the station;
- Dwell Times: when a train stops at a station with a crew base, the train may dwell there for 10-30 minutes;
- Commissary: Amtrak has ten commissaries, eight of which are located at major terminals. These are large facilities which stock trains' dining and cafe cars. Food is loaded well in advance of departure;
- Cleaning and trash removal: At some terminal stations, trains are serviced on the platform, after the passengers have left the train. At other stations, trains are brought from the station to a nearby yard for servicing;
- Trash: At designated trash stop stations, the conductor will off load trash and recycling bags and take on empty ones;
- Designated Smoke Break Stations: Passengers may be allowed to deboard trains for a short smoke break at stations with extended dwell times for crew changes and safety inspections;
- Safety inspections: the Amtrak fleet is required to undergo routine safety inspections every 1,500 miles. Some Amtrak stations include inspection pits to accomplish these inspections. Service platforms can not exceed 8 inches ATR at intermittent segments, to permit maintenance access to the passenger car "trucks" (aka "bogies" or "wheel and suspension assemblies");
- Maintenance: Fleet maintenance occurs at Amtrak maintenance facilities, rather than at stations. Amtrak's major maintenance facilities are located at Wilmington and Bear, Delaware, and Beach Grove, Indiana; and
- Amtrak Express Shipping: Amtrak provides express shipping service at some stations, with design implications for loading areas, storage, and equipment.

The essential pattern for train servicing is that servicing functions typically occur at terminal points in the route rather than at mid-route stations. These functions include stocking the dining and cafe cars, cleaning the train, emptying the restroom waste holding tanks, refilling portable water tanks, and removing trash and recyclables. Most Amtrak corridor service originates or terminates at Amtrak's Large Stations, which are also origin or terminal points for Amtrak's Long Distance routes. Thus, State Corridor and Long Distance services typically share Amtrak commissaries, crew bases, and service yards. State Corridor routes are short enough that no en-route servicing of the train is required. On those routes that do not begin or end at a station with an Amtrak commissary, the train is able to complete a full round trip before servicing.

4. Station Categories

4.1 Introduction

Introduction

Amtrak has developed a method to categorize its stations based on annual passenger volume, whether the station is staffed or un-staffed, and the amenities and customer service components that are consistent with the passenger volume at the station. There are four station categories, as follows:

- **Category 1** - Large;
- **Category 2** - Medium;
- **Category 3** - Caretaker; and
- **Category 4** - Shelter.

The station categories are an important tool for use in planning and programming the size and amenities of a station to meet local need, and in understanding the underlying factors that determine the station's role in the transportation system.

Category 1 Stations serve the centers and edges of large urban areas, and are highly integrated with supporting public transportation systems. These stations are typically the heart of urban and regional multi-modal transportation networks, are staffed to provide ticketing and support services, and often include significant retail space or transit oriented development surrounding the station. Terminal stations are often Category 1.

Category 2 Stations are staffed and serve a wide variety of communities, and also have significant variability in rail service type and program function. Category 2 Stations are primarily oriented to State Corridor service, or major destinations along Amtrak's Long Distance services, and have ticket offices and minimal staff.

Category 3 Stations are not staffed by Amtrak agents, but include an interior waiting facility, with restrooms, that is opened, closed, and maintained by an Amtrak caretaker or staffed by another entity.

Category 4 Stations are not staffed and include only a shelter and/or platform canopy to protect passengers from the weather. Amtrak is working provide shelters at all rail stops.

A fifth category includes curb-side bus stops and rail stops that are only a small platform or use a vehicle crossing. Amtrak is working to provide shelters at all rail stops.

There may be stations having blended characteristics due to the presence of other transportation providers or retail and community services. The chart on the following page indicates principal characteristics of the categories by service and configuration.

4. Station Categories

Summary of Characteristics

Rail Station Matrix

4.2 Summary of Characteristics

Rail Station Matrix

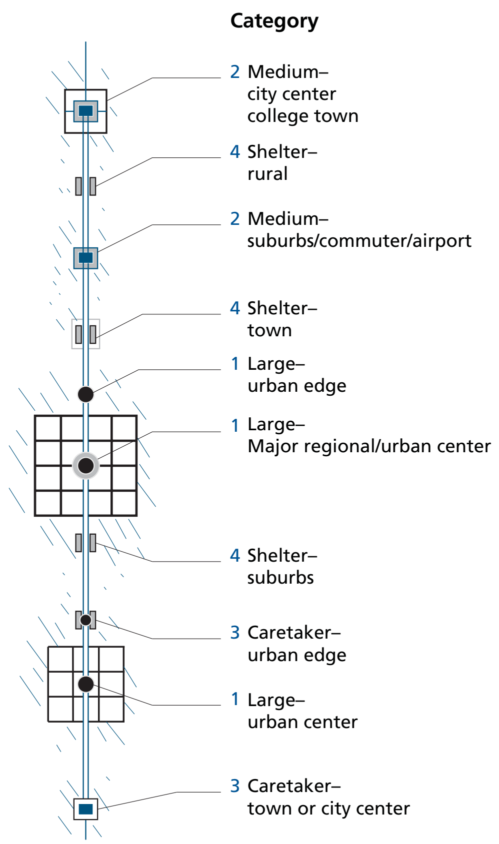
	Large	Medium	Caretaker	Shelter
Projected Annual Ridership Thresholds	Greater than 400,000	100,000 to 400,000	20,000 to 100,000	Less than 20,000
Route Service Type				
High Speed Rail	●	●	○	○
Corridor Service	●	●	○	○
Long Distance Service	●	●	●	○
Station Location Environment				
High Density (Urban)	●	○		
Medium Density (Town/Suburban)		●	○	
Low Density (Suburban/Rural)			○	○
Multi-Modal Services				
Full Range (Metro/Light Rail)	●	○		
Basic (Bus)	○	●	○	
Minimal (Auto/Taxi)		○	●	●
Customer Service Staffing Level				
Fully Staffed, Management Present	●	○		
Basic Staff for Ticketing Baggage, Train Operations	○	●	○	
Caretaker, No Passenger Assistance		○	●	
Unstaffed				●
Baggage Services				
Checked Baggage/Red Cap/Package Express	●			
Checked Baggage/Agent Assistance	○	●		
None			●	●
Station Configuration				
Side Platforms	●	●	●	●
Vertical Circulation to Platforms	●	●	○	
Terminal Services	●	○		

KEY: ● Typical Characteristics
○ Service based on route type, ridership, train frequency and other considerations

4.3 Location and Geography

The station category is primarily determined by four principal characteristics, all related to each other:

1. Type of Amtrak Service: the types of passenger rail service at the station, including High Speed Rail, State Corridor, and Long Distance services;
2. Geographic location: the location of the station in either an urban (high-density), suburban (medium-density), town or rural (low-density) environment;
3. Supporting transportation infrastructure: the degree to which the station is served by commuter rail, subway, light rail/street car, local buses, and auto access; and
4. Timeframe for growth: as smaller stations can be expected to grow larger if they fit into regional transportation plans and transit expansion.



Conceptual scheme, for illustrative purposes only

4. Station Categories

Category 1 Large Stations

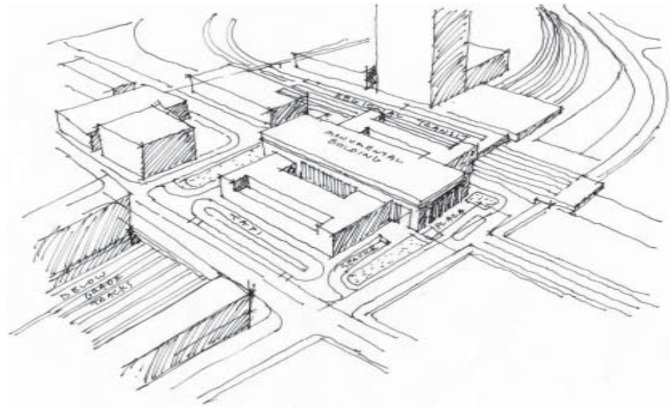
Includes major stations serving over 1 million Amtrak passengers annually:

- New York;
- Washington;
- Philadelphia;
- Chicago;
- Los Angeles;
- Boston; and
- Sacramento.

Includes multi-modal stations with between 400,000 and 1 million passengers.

66% of Amtrak ridership

Center-city/urban core/urban edge

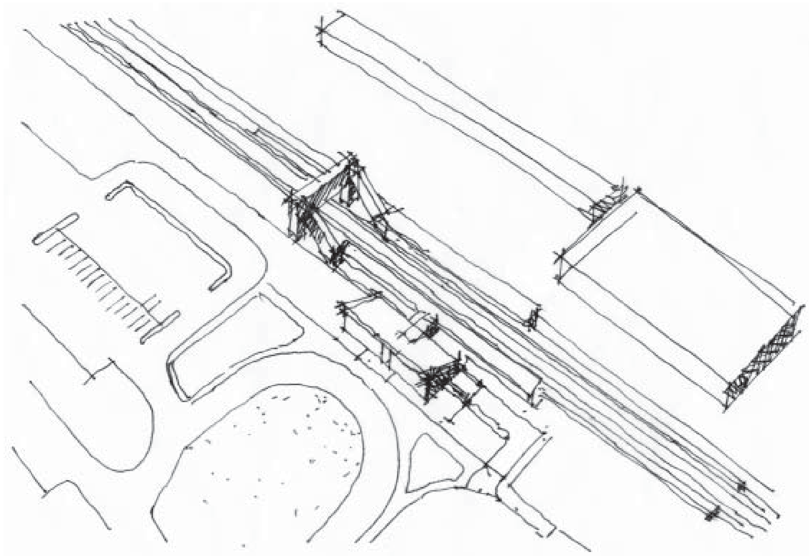


4.4 Category 1 Large stations

Category 1 Large stations are located in several of America's largest cities and are served by a combination of high speed, corridor and long distance rail passenger services. There are over 30 stations in this category, all serving over 400,000 passengers annually, and the largest each serve over one million passengers annually. These large stations are located in dense urban downtowns, with connecting transit services such as commuter rail, subway/metro, light rail and bus. Most of these stations are very similar in character to major airports, with a high level of passenger amenities, including restaurants and retail. These stations are staffed to provide ticketing and checked baggage services, and some include a ClubAcela or Metropolitan Lounge for first class passengers, and on-site security or police.

Large stations have multiple tracks and platforms, and frequently serve as both a terminal and a through station. Because they often serve as origination points for State Corridor and Long Distance services, the large stations typically include a crew base, commissary, and facilities for rolling stock servicing. Almost all of these stations are either currently served by Amtrak's *Acela Express* high speed rail, or are included in designated future high speed rail corridors.

Annual Amtrak Passengers	over 1,000,000	400,000–1,000,000
Train Frequency (weekly)	200 to over 850	70 to over 650
High Speed Rail Served by Acela or Designated HSR	100%	67%
State Corridor Service	100%	100%
Long Distance Service	100%	45%
Multi-Modal Commuter Rail, Subway, Metro or Light Rail	100%	60% 100% with local and regional bus service
Mixed Use	Retail, restaraunts, and adjacent office, residential, hotel and entertainment uses	Retail, restaraunts, office and entertainment uses - often in isolation; adjacent hotel, residential and office
Amtrak Program	Staffed ticket offices with baggage service, customer service offices, first class lounges, seating in waiting areas. Often include a crew base and commissary. All include Amtrak Police.	Staffed ticket offices with baggage service, customer service offices, first class lounges, seating in waiting areas. Often include a crew base and commissary. All include Amtrak Police.
Checked Baggage	100%	60%



Category 2 Medium Stations

Stations serving between 100,000 and 400,000 Amtrak passengers annually and those stations that for operational reasons have staffed ticket offices

26% of Amtrak ridership

City center /suburban/airport/ town center

4.5 Category 2 Medium Stations

Category 2 Medium Stations are primarily oriented to serving State Corridor routes, but also frequently accommodate Long Distance service. This Station is an important category in the Amtrak system of stations, and is a station type adaptable to a variety of locations including city centers, suburban community locations, college towns, and airports.

Amtrak expects the Medium Station to play an increasingly significant role in its system, especially on State Corridor and High Speed Rail service routes. Medium stations include a waiting area, ticket office, restrooms, and often a community space for other tenants providing services during business hours. On routes offering baggage service, the ticket office will incorporate ticket office will incorporate baggage facilities. These stations typically have, or will have two or more platforms for multiple tracks, elevators and escalators for vertical circulation, and a tunnel below the tracks or an overhead bridge to cross tracks and access platforms between tracks.

Medium stations are staffed by Amtrak, although staff costs are often supported by state and/or local stakeholder partners where passenger volume and revenue do not support the cost of staffing.

Annual Amtrak Passengers	100,000–400,00
Train Frequency (weekly)	6 to over 300
High Speed Rail Served by Acela or Designated HSR	45% are designated HSR stops or currently served by Acela Express
State Corridor Service	50%
Long Distance Service	74%
Multi-Modal Commuter Rail, Subway, Metro or Light Rail	Over 40% with local or regional bus service
Mixed Use	Retail, restaurants and services
Amtrak Program	Staffed ticket offices, most with baggage service, customer service offices, some with first class lounges, Amtrak police
Checked Baggage	90%

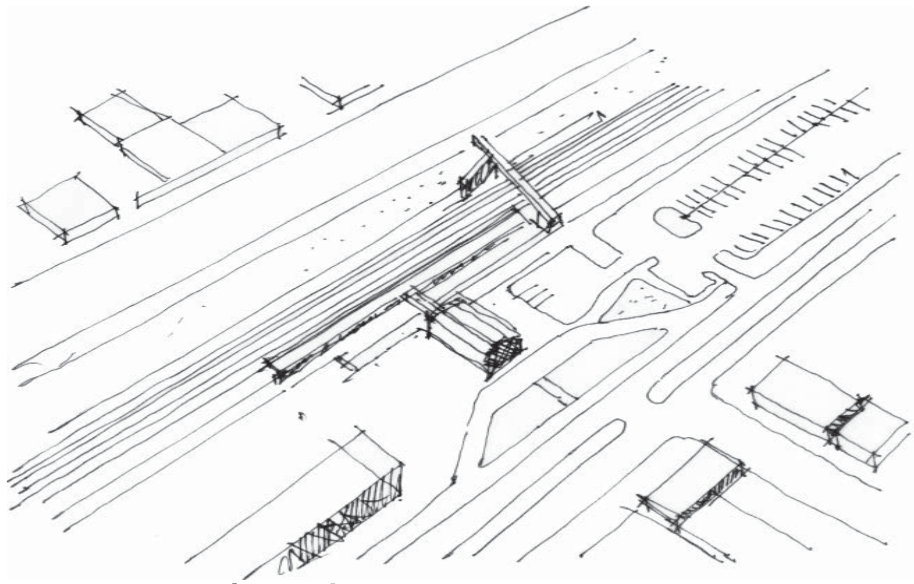
4. Station Categories

Caretaker Stations

Stations serving between 20,000 and 100,000 Amtrak passengers annually and those that are staffed with caretaker or another entity that maintains the facility

5% of Amtrak ridership

Small city/town/suburb



4.6 Category 3 Caretaker Stations

Category 3 Caretaker Stations serve Long Distance routes, and State Corridors with limited rail service. Many Caretaker stations are currently found in the Amtrak system at locations with annual ridership below 20,000 passengers. These stations are typically supported and maintained by the local community or a state agency. Caretaker Stations can also be found in some locations shared with commuter rail services.

This category station is maintained by a part-time custodian (who may or may not be an Amtrak employee) or community stakeholder responsible for opening the station a minimum of one hour before train arrival and keeping the station open until one hour after departure.

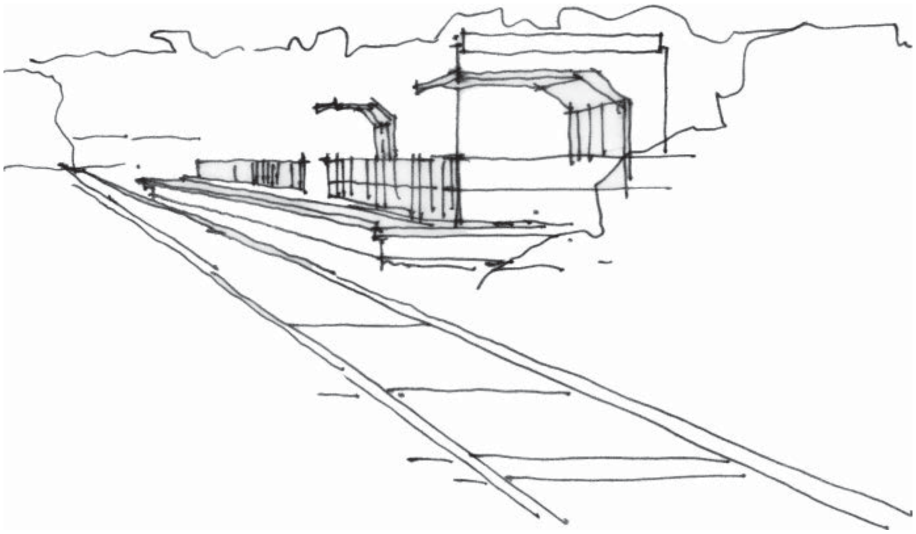
Caretaker services include janitorial and maintenance activities such as cleaning the waiting area and restrooms, and snow removal on walkways and platforms. The Caretaker Station does not offer checked baggage or ticketing window, and does not provide passenger boarding/de-boarding assistance, but may be equipped with Quik-Trak self service ticketing machines.

Annual Amtrak Passengers	20,000–100,000
Train Frequency (weekly)	6 to over 280
High Speed Rail Served by Acela or Designated HSR	3% are designated HSR stops
State Corridor Service	54%
Long Distance Service	58.7%
Multi-Modal Commuter Rail, Subway, Metro or Light Rail	10% with commuter rail, streetcar, or subway service
Mixed Use	May have other tenants but generally retail or restaurant within station; may have vending
Amtrak Program	Seating in waiting area, restrooms

Shelter Stations

4% of Amtrak ridership

Town/suburb/rural



4.7 Category 4 Shelter Stations

Category 4 Shelter Stations serve smaller communities located on either Long Distance or State Corridor routes. Where located on corridor routes with higher service frequencies, this station often consists of a side platform configuration, requiring an overhead or tunnel connection across two or more tracks. This category of station is not staffed and does not offer restrooms or a conditioned waiting space, but provides passengers with protection from the elements by a canopy and/or small shelter, train information, and self-service Quik-Trak ticketing.

Amtrak has developed a prototype shelter station that has been constructed at several locations throughout the country and is a model for category 4 stations. For locations with very low annual ridership (typically Long Distance routes), Amtrak may serve a facility with only a platform, providing Amtrak signage, lighting and train information. A full length platform may not be required. However, Amtrak encourages the inclusion of a small bus-type shelter or short canopy at these minimal facilities.

Annual Amtrak Passengers	Fewer than 20,000
Train Frequency (weekly)	6 to over 200
High Speed Rail Served by Acela or Designated HSR	1%
State Corridor Service	56%
Long Distance Service	50%
Multi-Modal Commuter Rail, Subway, Metro or Light Rail	17% with commuter rail, streetcar, or subway service Over 60% with local or regional bus service
Mixed Use	None
Amtrak Program	Sheltered, unconditioned waiting area with seating
Checked Baggage	None

4. Station Categories

Thruway Bus Service

4.8 Thruway Bus Service

Amtrak's Thruway Bus Service connects many communities without rail service to Amtrak stations and State Corridor and Long Distance services. Because many Thruway bus stop locations are - like transit bus stops - located on public thoroughfares and sidewalks, Amtrak does not maintain station classification standards for Thruway bus stops. However, the need for services and amenities at individual stop locations is included as part of the overall service evaluation of the Thruway route, including Amtrak signage and identity related to the service at Thruway bus stop locations. At Amtrak rail stations served by Thruway buses, an integrated intermodal connection is provided with Amtrak rail passenger service.

5. Program

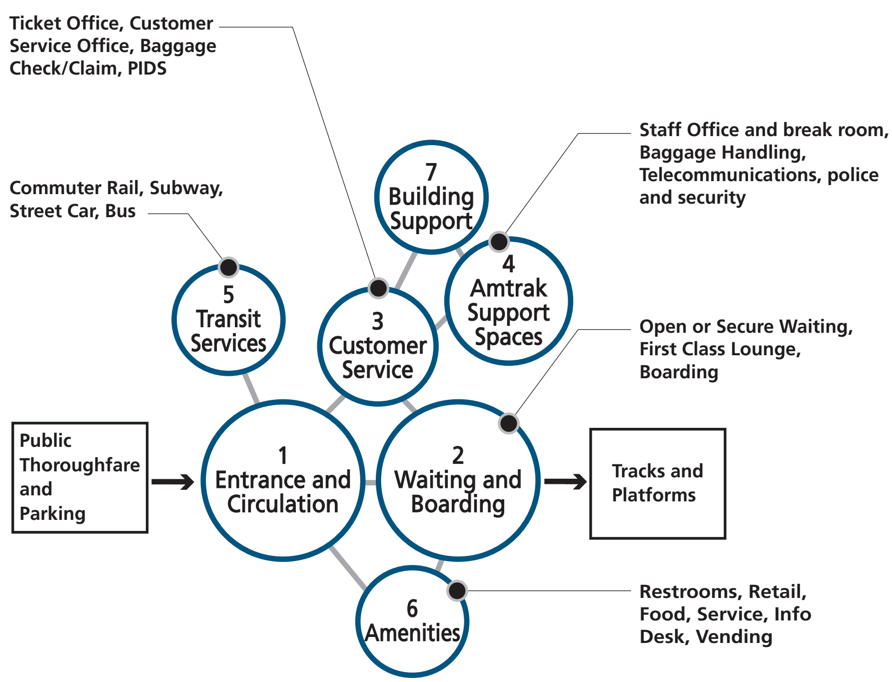
5.1 Introduction

Introduction

This chapter provides a guideline to understanding the station program. Developing accurate requirements for station spaces is one of first steps in designing the station. More detailed space requirements are provided in Appendix K. Amtrak organizes the architectural program into seven categories as follows:

1. Entrance and Circulation: integrating the station into public space and the public way;
2. Waiting and Boarding: seating and other amenities for Amtrak passengers awaiting their departure. Dedicated waiting areas can be physically separated from other areas of the station and have dedicated restrooms and other amenities;
3. Customer Service: the public face of Amtrak where passengers obtain train information, purchase tickets, and check baggage;
4. Amtrak Support Spaces: back-of-house spaces that support Amtrak station functions, including staff offices and support spaces; police and security offices and holding area; baggage handling spaces; and information technology equipment;
5. Intermodal Transit Services: related transportation uses including subway, street car, city bus systems, and commuter rail;
6. Amenities: restrooms, retail, vending, restaurants, and/or other amenities; and
7. Building Support Spaces: mechanical, electrical, storage and other support spaces.

The core functionality of every station from Category 1 to Category 4 includes, the entry/circulation/ticketing/waiting/boarding sequence. The differences among station sizes relate primarily to scale, with small stations having minimal customer service, Amtrak support spaces or amenities while Category 1 large stations have a full range of these components.



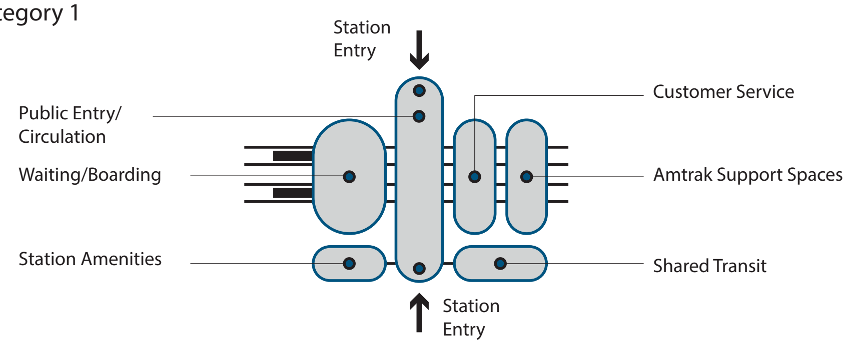
5. Program

Program Components by Station Category

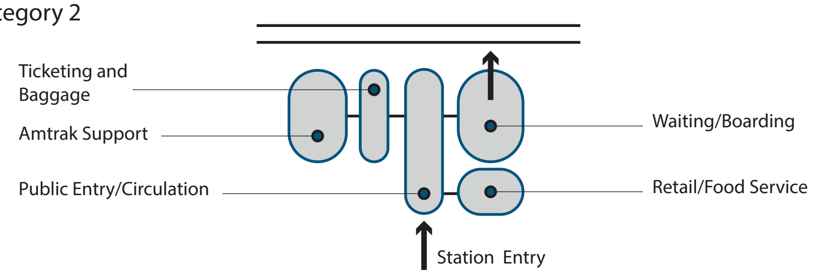
5.2 Program Components by Station Category

The inclusion and scope of the program components vary by station category which are based primarily on passenger volume. Category 3 and 4 stations are programmatically simple, and utilize a limited set of the program components, while Category 1 stations include all seven program components. The program components outlined in this chapter vary in size and scope according to station category. Each category includes the core functionality of station entrances and circulation, waiting and boarding, and at least some customer service components. Depending on the scale of the operation, the large Category 1 and in some cases Category 2 stations also include higher levels of Amtrak customer service station amenities, such as the ClubAcela, as well as shared transit functions.

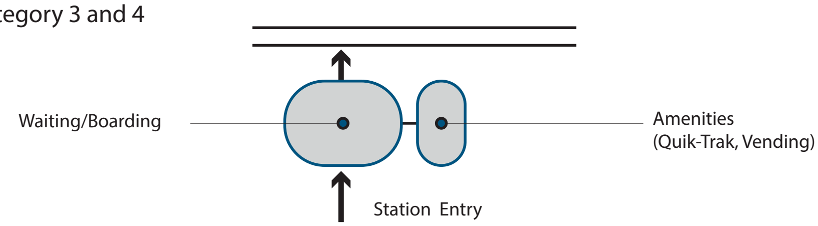
Category 1



Category 2



Category 3 and 4



5.3 Station Classification and Features Matrix

Category	Subcategory	Feature	Large	Medium	Caretaker	Shelter	Thruway Bus (Unstaffed)
		Projected Annual Ridership Thresholds	Greater than 400,000	100,00 to 400,000	20,000 to 100,000	Less than 20,000	
Facility Structure Elements		Platform	●	●	●	●	
Facility Structure Elements		Platform Canopy	●	●	●	○	
Facility Structure Elements		Sheltered Waiting Area	○	○	○	●	○
Facility Structure Elements		Station Building	●	●	●		
Access & Wayfinding		Auto/Taxi Pick-Up/Drop-Off Lanes	●	●	●	○	
Access & Wayfinding		Parking	○ 1	●	○	○	
Access & Wayfinding		Rental Cars on Call	●	○	○		
Access & Wayfinding		Rental Cars on Property	○	○			
Access & Wayfinding		Transit and Bus Access	○	○	○	○	
Access & Wayfinding		Taxi Access	●	●	○	○	
Access & Wayfinding		Staff Parking	○ 1	●	○		
Access & Wayfinding		Bicycle Racks	●	●	●	○	
Access & Wayfinding		Station Signage (Amtrak Standards)	●	●	●	●	●
Access & Wayfinding		Regulatory Signage (MUTCD)	●	●	●	●	●
Station Features & Functions		Restrooms	●	●	○		
Station Features & Functions		Drinking Fountains	●	●	○		
Station Features & Functions		Site Lighting	●	●	●	○	○
Station Features & Functions		Trash Receptacles	●	●	○		
Station Features & Functions		Trash Pick-Up/Snow Removal	●	●	●	●	
Customer Service	Ticketing & Baggage	Quik-Trak/e-Ticketing	●	●	○ 2	○ 2	
Customer Service	Ticketing & Baggage	Ticket Office	●	●			
Customer Service	Ticketing & Baggage	Passenger Boarding Assistance	●	●			
Customer Service	Ticketing & Baggage	Checked Baggage Handling	●	○			
Customer Service	Passenger Information	Passenger Information Display System	●	●	○ 2	○ 2	
Customer Service	Passenger Information	Pay Telephones	○	○	○	○	
Customer Service	Passenger Information	Information Counter	●				
Customer Service	Passenger Information	Customer Service Office	●				
Customer Service	Security	Emergency Platform Call Box	●	●	○ 2	●	
Customer Service	Security	Security Facilities on Site	●				
Customer Service	Security	Security on Call/Systems		●	○		
Customer Service	Security	Local Police Surveillance/Call Box			○	○	
Customer Service	Security	CCTV/Video Surveillance	●	○	○		
Customer Service	Security	Access Control/Card Readers	●	●	○		
Staff & Support Functions		Station Management Services	●	●			
Staff & Support Functions		Passenger Baggage Assistance (Red Cap)	●	●			
Staff & Support Functions		Ticket Agents	●	●			
Staff & Support Functions		Package Express Handling	●	○			
Staff & Support Functions		Staffed Information Counter and Ushers	●	○			
Staff & Support Functions		Host/Greeter Staff			○		
Staff & Support Functions		Janitorial Service/Dedicated Cleaning Staff	●	●			
Amenities		Restaraunt/Food Service	●	○			
Amenities		Vending Machines	●	●	○		
Amenities		Shops (News, Books, etc.)	○	○			
Amenities		ClubAcela or Metropolitan Lounge	○				

● Feature included for given station category
○ Evaluate based on site conditions

1 Evaluate based on site conditions and transit access
2 Include at discretion of state-sponsored agency on corridor routes or funding agency on other routes

Station Classification and Features Matrix

Additional program components that are not defined in the Station Classification and Features Matrix, can be required at a station depending on the type of service offered and the operational needs. These can include space for Amtrak crew base, right-of-way and mechanical maintenance staff, non-Amtrak occupancies such as retail and office components, and program space for other transit functions.

Station categories are primarily determined by their passenger ridership volume, service type, and by the station's position in the local or regional transportation infrastructure.

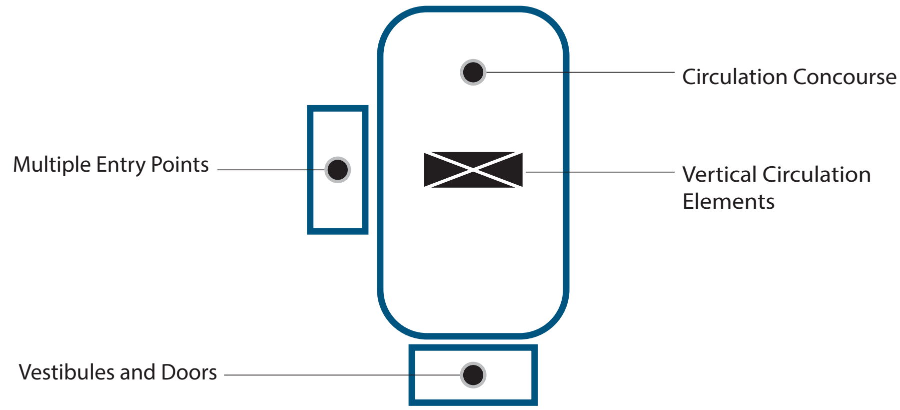
Public Entrance and Circulation

Entrances

Decision points

Arrival points

Circulation and ADA Requirements



5.4 Public Entrance and Circulation

The station building exists as a facility to process movement to and from trains, connecting the passenger with the city, suburb, or town.

To achieve efficiency of movement, the circulation system should provide the shortest paths among the trains, station concourse, and connecting transportation. Amtrak has extensive experience with the use and operation of the mechanical components that are critical parts of any circulation system: escalators, elevators, vestibules and doors. Because vertical circulation elements are expensive to install and maintain, the circulation system should strive for horizontal movement to the greatest extent possible with level paths and minimal elevation changes requiring vertical circulation elements. The public spaces in the station should be organized hierarchically, with primary circulation paths having generous ceiling heights, and secondary and support spaces having lower ceilings. The visibility of station program components from the main entrance should be a priority. Travelers seek clues to assist with way finding, and the circulation organization should be very clear to minimize traveler confusion and uncertainty, with station spaces naturally leading travelers toward their destination. Circulation design should take into account entrances, decision points, and arrival points as design considerations.

Entrances

Coming to a new space, travelers seek clues to assist with way finding. Spatial organization should be very clear to minimize traveler confusion and uncertainty and spaces should naturally lead travelers toward their destination.

Decision points

Where paths diverge or options are presented to travelers, spaces should be generously scaled to allow travelers to slow down and make decisions. Primary paths should be emphasized spatially, while secondary paths should be clearly defined and legible without confusing the natural hierarchy with more important routes.

Arrival points

The creation of gateways and focal points can help travelers recognize their arrival at the desired destination, utilizing specially designed architectural elements, material transitions, or lighting to enhance the arrival sequence.

Circulation and ADA Requirements

Provision of adequate circulation space is important to both safety and convenience. The design should allow easy traveler movement during peak travel periods, and the public spaces in the building should be free of impediments that restrict movement. The circulation capacity of the station should be based on the number of people utilizing the station at peak periods, taking into account that the building will have heavier use during certain days and time periods. Circulation spaces must also accommodate shared transit services and Amtrak ridership growth. Amtrak does not recommend exact standards for determining circulation space, as there are many variables in individual stations. However, computer modeling tools simulating pedestrian movements have become increasingly sophisticated, and should be used in circulation design for Category 1 stations, and even at times Category 2 stations. Computer modeling can take into account specific architectural conditions in assessing the performance of the circulation system, including aisle and platform widths, and obstructions such as columns, doorways, stairs, elevators, escalators, ramps, seating areas and other components of the building.

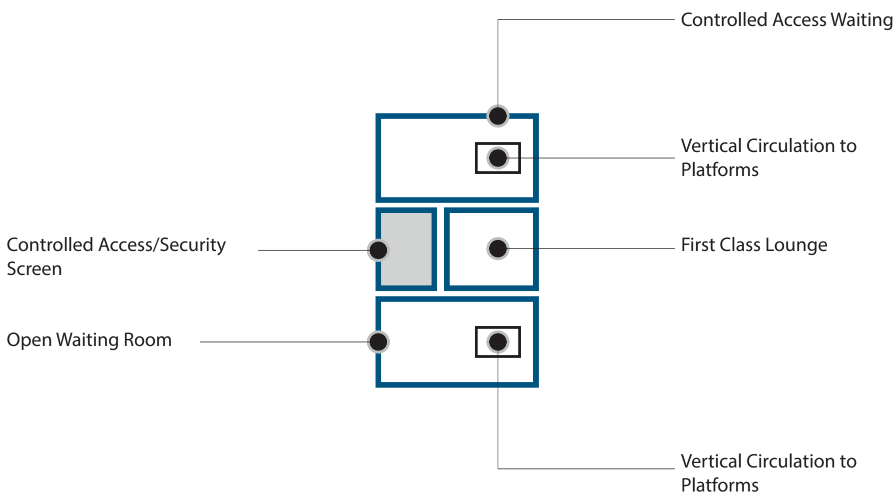
Compliance with ADA requirements, such as for curb cuts and elimination of other potential obstacles, improves ease of circulation for all passengers, disabled or not. Dimensions should accommodate passengers with baggage and baggage carts where applicable. In general, pedestrian circulation should avoid conflicts with vehicular traffic.

5.5 Waiting and Boarding

Waiting and boarding functions and space requirements are highly variable depending on the station category, ridership, and type of service. Waiting and boarding can take place in open circulation areas with minimal seating found in Category 3 stations or in the controlled waiting areas and first class lounges found in some Category 1 stations. In general, more controlled waiting and boarding sequences should be utilized for HSR and Long Distance services, while more open waiting and boarding sequences are appropriate to commuter rail and corridor services.

A range of waiting environments should be considered for inclusion within the station, including general seating areas, standing room areas for commuter activity, and possible use of cafe tables and chairs with access to power and wireless for laptops and mobile devices. All waiting areas should have convenient access to restrooms, adjacency to ticketing, access to train (arrival and departure) information, close access to platforms, and where possible, a view of the trains/platforms.

Lounges for first class passengers, such as the ClubAcela or Metropolitan Lounge, are often provided at Category 1 stations. These lounges include comfortable seating, business services (wireless internet, fax, computer stations), beverage service, baggage storage areas, restrooms, and conference rooms. They are separate spaces with controlled access and are staffed by Amtrak personnel. Passengers who are ticketed in sleeper cars on Long Distance trains may use these lounges.



Waiting and Boarding

Waiting and Boarding Program Components:

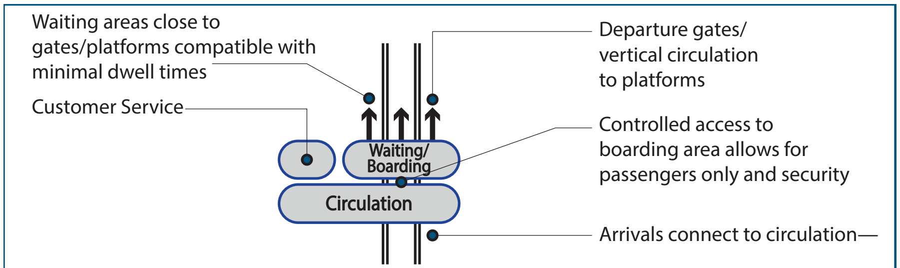
- General waiting areas;
- Platform/gate access;
- Security screening; and
- First class lounge/ClubAcela.

Boarding Sequences

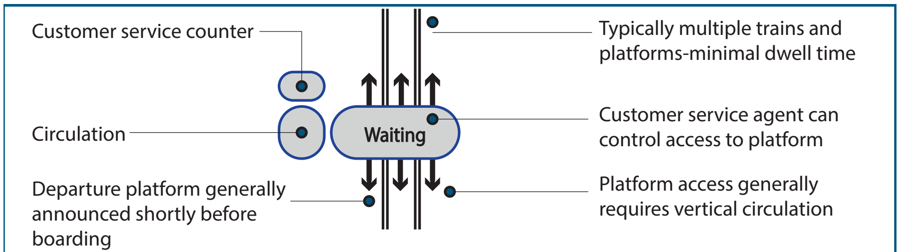
Three types of boarding sequences:

1. Separated and controlled waiting and boarding;
2. Open waiting/controlled boarding; and
3. Open waiting and boarding.

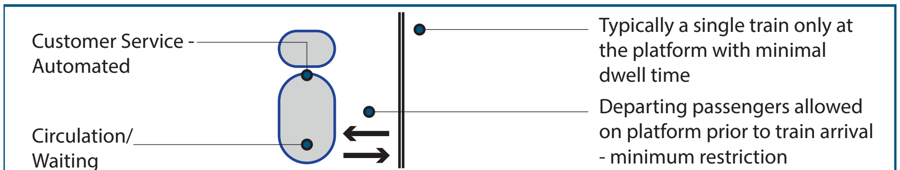
5.6 Waiting and Boarding Sequences



Separated and Controlled Waiting and Boarding
Category 1 and 2 Stations



Open Waiting/Controlled Boarding
Category 2 Stations



Open Waiting/Boarding**
Typical to Category 3 and 4 Stations

** Open waiting/boarding typical to unstaffed or minimally staffed stations-long distance corridor and commuter services

Amtrak stations utilize three types of waiting and boarding sequences, which generally correspond to station category:

Category 1. Separated, controlled waiting areas and controlled platform access;

Category 2. Open waiting areas with controlled access to platforms; and

Category 3 and 4. Open waiting areas and platform access.

Waiting and boarding at Category 2, 3 and 4 stations are open systems, which do not require security screening of passengers prior to boarding, Category 1 stations are controlled systems, which require dividing the station into un-ticketed and ticketed areas, allowing ticketed passengers to be screened prior to boarding the train. For safety and security of its passengers, Amtrak is moving towards controlled passenger boarding routines at its Category 1 stations, to control access to the platforms and provide for checking tickets prior to allowing passengers to move to the platform. Provision of adequate space in the station design to allow for this boarding procedure enables future expansion to include security screening of passengers prior to boarding trains. Stations which utilize separate and controlled waiting and boarding for some services also typically utilize open boarding for other types of rail services within the same station.

5.7 Waiting Area Capacity

Waiting area type and capacities are dependent on the type of Amtrak service provided, and whether the station functions as an intermodal transportation center. At Category 1 stations and Category 2 stations with frequent train service, intermodal connections, and significant commuter rail operations, determining the overall waiting area capacity requires careful consideration of the schedules and peak loads of all services.

The Amtrak methodology to determine the space requirements for waiting areas should be used to develop the station program and is presented in the table here. This methodology is based on the type of Amtrak service provided at the station (State Corridor or Long Distance) and the station's daily ridership. Long Distance trains have different requirements than corridor trains, with the long distance traveler likely to arrive an hour or more before departure, requiring more seating than the high speed, regional or state corridor service passenger who typically arrives within fifteen to twenty minutes of train departure.

Waiting Area Capacity

Capacity Requirements are Determined by:

- Commuter vs. intercity differences—standing vs. seated passengers; and
- Seating for groups/space for luggage and carry-ons.

Formula	Comments
1. Determine daily ridership at the station Daily Ridership=Annual Ridership (ons + offs)/270	Daily ridership is calculated by dividing total annual ridership by 270 days. This formula produces a higher number than typical daily ridership in order to account for peak conditions that occur on busy travel days, and variations in weekday/weekend and seasonal travel.
2. Determine peak hour ridership **Six or more trains per day:** Peak hour ridership (2 way)=0.15 x daily ridership Peak hour ridership (1 way)=0.65 x peak hour ridership (2 way)	For locations with six or more trains per day, peak hour ridership is calculated as 15 percent of daily ridership.
Fewer than 6 trains per day: Peak hour ridership (2 way)=daily ridership/number of trains per day Peak hour ridership (1 way)=0.65 x peak hour ridership (2 way)	For locations with fewer than six trains per day, peak hour traffic is calculated as daily ridership divided by the number of trains per day.
3. Determine waiting area space requirements **Corridor Service Requirements** Seated passengers area= 0.50 x (peak hour 1 way ridership) x 20 sf/person Standing passengers area= 0.50 x (peak hour 1 way ridership) x 10 sf/person	Waiting area space requirements are determined based on the number of people waiting for a train at any given time (peak hour ridership 1 way), and on the waiting habits of the ridership population served. One way peak hour ridership numbers are used because those passengers de-boarding the train generally leave the station without utilizing the waiting area.
Long Distance Service Requirements Seated passenger area = 0.75 x (peak hour 1 way ridership) x 20 sf/person Standing passengers area = 0.25 x (peak hour 1 way ridership) x 10 sf/person	Because of the short waiting time, it is assumed that corridor services require seating for only one-half of the peak hour 1 way ridership. And conversely, long distance services require seating for 75 percent of peak hour 1 way ridership. Area requirements are 20 square feet per seated passenger and 10 square feet per standing passenger.

Amtrak Customer Service Overview

Customer Service Program Components:

Ticket Office/Baggage Check

Quik-Trak

Baggage Claim

Customer Service Office

5.8 Amtrak Customer Service Overview

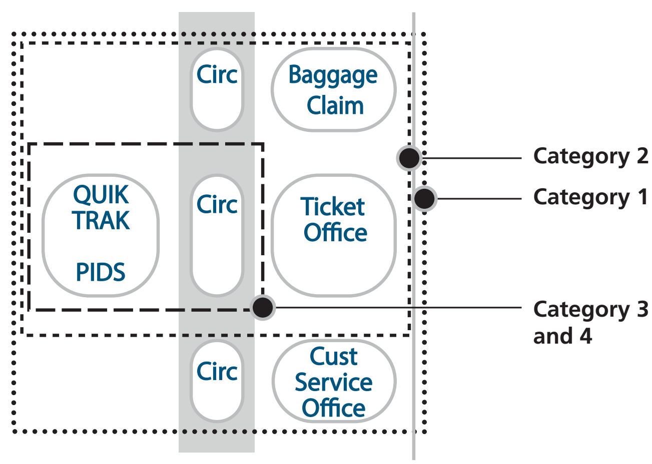
Three levels of customer service are typical at Amtrak stations and relate to the station categories as follows:

Category 1. Large: Category 1 Stations are fully staffed stations and often include a multi-position ticket office, baggage services, and a customer service office. Baggage services are included at most Category 1 stations. When a baggage operation is included, back-of-house space is required for baggage handling and storage;

Category 2. Medium: Category 2 Stations are minimally staffed stations with a ticket counter, sometimes of limited hours, and typically with basic baggage handling capability; and

Category 3 and 4. Caretaker and Shelter: Category 3 and 4 Stations are unstaffed stations with limited or no services. some stations in these categories may include self-service ticketing and/or provision of train arrival and departure information through Passenger Information Display Systems (PIDS).

The customer service and Amtrak support space program components are highly inter-related in their functions, often requiring close adjacencies. The larger customer service operations at Category 1 stations require significant space, and because of the scale of the station, may allow a more dispersed arrangement of operational spaces. The minimum staff levels at Category 2 stations, usually consisting of between one and three Amtrak staff during operating hours, require a compact and efficient organization of the Customer Service and Amtrak Support spaces.



5.9 Ticket Office

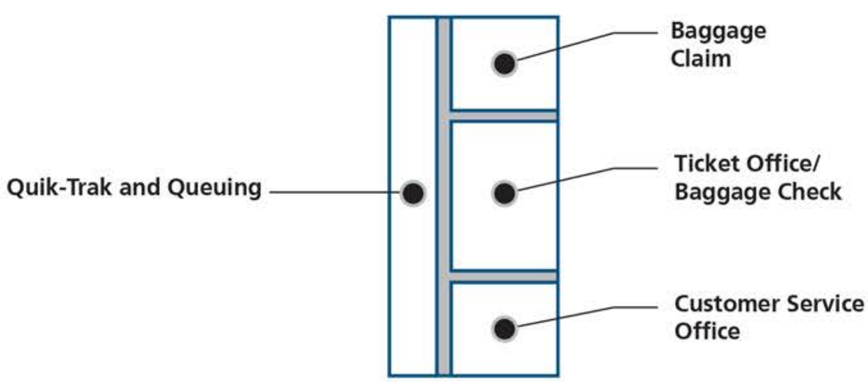
The customer service counter or ticket office is the primary station interface between Amtrak staff and the customer. Customer service should be as accessible to passengers as possible, in a visible location, and designed such that the customer service agent can easily access the public areas of the station from the counter area. Visual connections from the ticket office to the waiting areas, platforms, restrooms, and other parts of the station are important.

Amtrak ticketing is being transformed to employ a new business model that emphasizes the ticket agent as a customer service representative. Increased provision of baggage services and the use of e-ticketing and Quik-Trak machines are also inherent in this business model. With the implementation of print-anywhere e-ticketing, the need to print tickets at either a ticket window or Quik-Trak machine will be reduced significantly, and the role of the ticket agent will become more focused on customer service. The ability to print checked baggage tags as a future phase of e-ticketing will become more significant as part of this transformation.

Amtrak recognizes that at many stations security for the customer service agent is a concern, making glass separation between the agent and customer desirable. However, a design for the ticket office that achieves as much openness and visibility as possible is recommended, to avoid acoustic barriers and to improve ease transactions. Utilizing sliding glass partitions or rolling gates that can remain open as often as possible, rather than fixed ballistic panels, is preferred.

Customer Service Office

While customer service needs are typically addressed at the ticket counter in most stations, Category 1 stations frequently include a separate customer service office to handle passengers who have out of the ordinary questions, problems, or difficulties with travel plans. This office should provide a small passenger seating area and service counter, and should be located adjacent to the main waiting area and ticket office. The customer service office should be linked to the Amtrak staff spaces and attached to the ticketing office functions, to provide flexibility in staffing.



Ticket Office

Customer Service Office

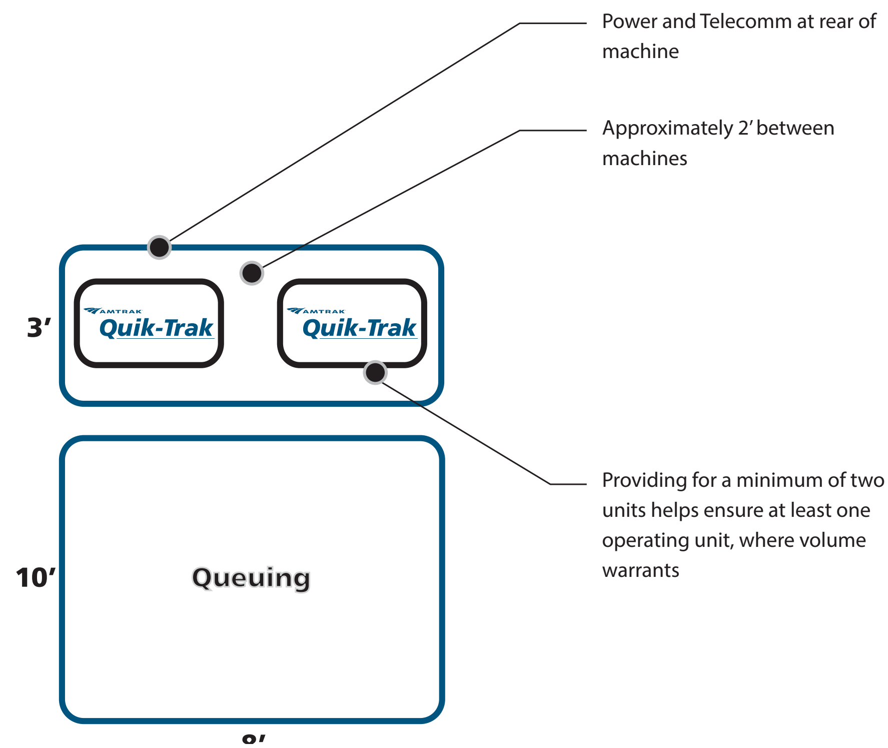
5. Program

Quik-Trak

5.10 Quik-Trak

Provision of automated ticketing through Amtrak's Quik-Trak system is a component of many Amtrak stations. This self-serve ticketing accounts for as much as 60 percent of ticket sales at some staffed stations. Quik-Trak machines provide rapid access to tickets and allow passengers to bypass waiting in line at the customer service counter. Quik-Trak machines are designed to be ADA-accessible. Amtrak continues to develop the use of self-serve e-ticketing, with increased usage nationwide, at all categories of station which is expected to reduce the need for future of Quik-Trak (Amtrak is no longer purchasing new units; however, existing units may be redistributed as demand warrants). Key planning considerations for Quik-Trak machines include:

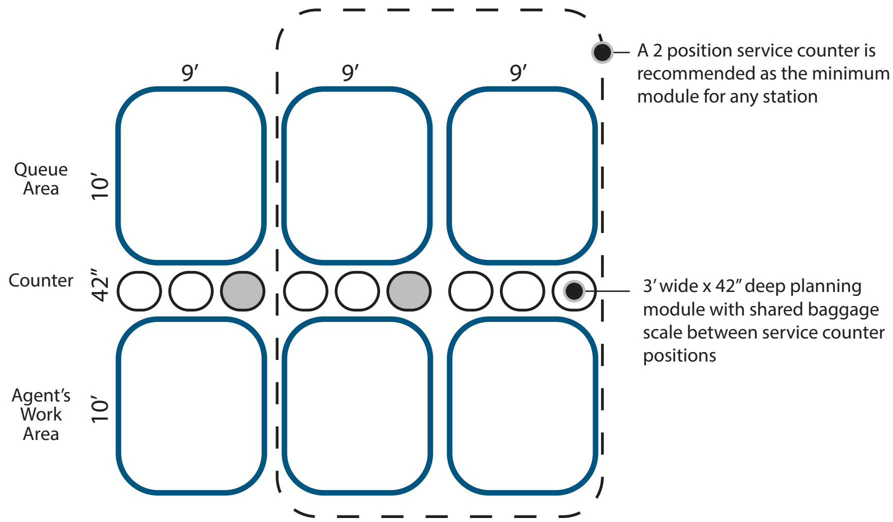
- At Category 1 stations Quik-Trak machines should be located near the ticket counter, as well as distributed near waiting areas, station entrances, and other areas to provide more ticketing options to frequent travelers;
- At Category 2 stations a minimum of two Quik-Trak machines is recommended, which should be located adjacent to, or in a position highly visible to, the ticket office;
- At Category 3 and 4 stations, which are unstaffed, Quik-Trak machines may be included at the station depending on local needs and conditions;
- If multiple units are present, group Quik-Trak units together in banks of two or more. Allow adequate area for queuing of passengers waiting to use the machines; and
- Integrate Quik-Trak locations with the design and planning of the station, locating them within a niche, architectural space, or a kiosk.



5.11 Ticket Office Space Requirements

Ticket office space requirements depend on the number of agents required and whether the station service includes checked baggage. Programming the ticket office space correctly is critical to the efficiency of the customer service operation, and staffing is solely a decision of Amtrak and its state and commuter partners. Category 1 stations will include multi-position ticket offices with significant Amtrak staff space nearby (see 5.14). The number of ticket windows required is determined by station-specific considerations of passenger volume, joint ticketing with commuter agencies, and queueing theory.

At many Category 2 stations there is a single agent who manages the station operations and whose duties include selling tickets, providing baggage services, making announcements, and providing customer information. Amtrak recommends a minimum of two ticket windows, including two ticket agent spaces for shift overlap, equipment malfunction, etc., even where only one agent will be staffing the station.



Baggage Check

Provision of checked baggage service is an important Amtrak amenity, and is offered on all of Amtrak’s Long Distance and some of its State Corridor trains, although not offered at all stations. However, checked baggage is typically not a functional part of HSR, as the characteristics of the business traveler are less oriented to checked baggage and a baggage operation is incompatible with the minimal dwell times required.

Amtrak’s standard module for baggage check allows for one scale and opening between each two counter positions. The opening and scale are sized to accommodate the largest piece of checked baggage Amtrak accepts, 36 x 36 inches. At some Category 1 stations, a separate and additional baggage check area should be programmed. This separate baggage check area is also useful at stations that accommodate large groups that check in together, or at stations that regularly receive passengers with oversize baggage including skis and bicycles. The relationship of the ticketing service counter to the baggage handling area, is an important consideration as baggage operations require corresponding baggage handling space. At Category 1 stations, the baggage handling area is often remote from the ticket office and connected by a mechanized conveyor. At Category 2 stations a baggage holding area adjacent to the customer ticketing counter is more commonly recommended than a mechanized system.

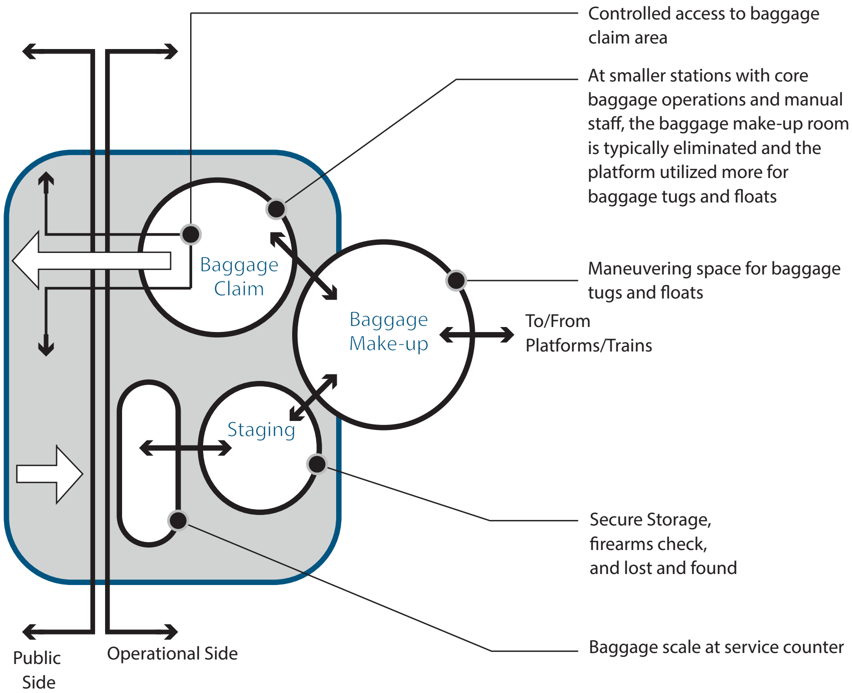
Ticket Office Space Requirements

Baggage Check

Baggage Operation Overview

Note that checked baggage may include firearms, requiring secure storage provisions.

5.12 Baggage Operation Overview



Three levels of baggage handling operations are utilized at Amtrak stations, depending on the station size and ridership:

Category 1. Full-scale Baggage Operation

Baggage check services at larger stations with multiple service types, frequent trains, and a larger staff typically include a full-scale operation with dedicated baggage claim area, and separate staging and baggage make up rooms for baggage handling. These locations may also provide package express service;

Category 2. Limited Baggage Operation

At medium stations that include baggage services, a small-scale baggage handling operation with a dedicated baggage claim area is organized around the limited staff in the station, and requires close adjacencies between the program elements to enable station staff to run the operation efficiently; and

Category 3 and 4. No Baggage Service

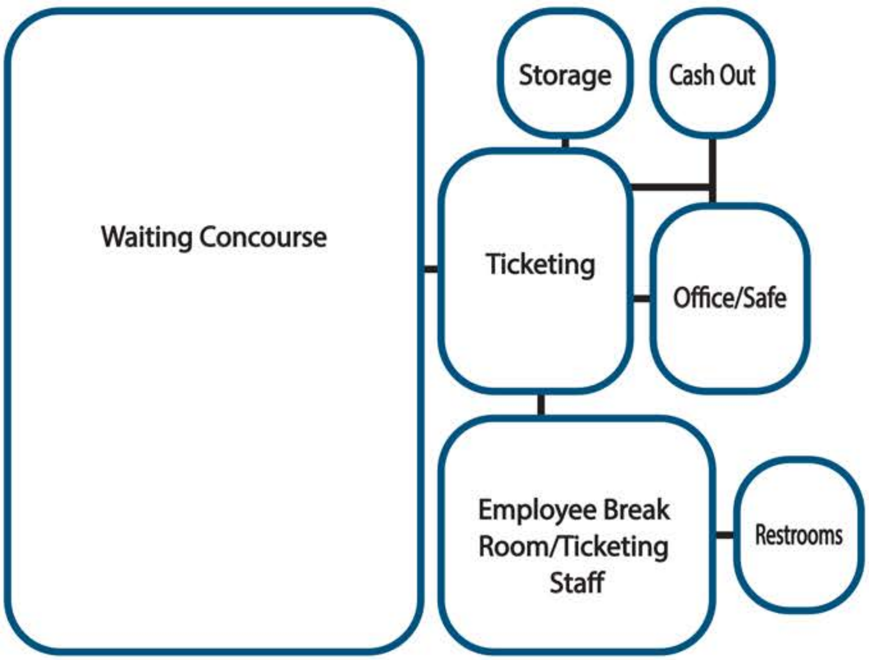
Category 3 and 4 stations are unstaffed and do not include baggage services.

At those stations accepting checked baggage, the baggage handling program includes both a customer service interface with the traveler, as well as a back-of-house support areas. The customer service components consist of the baggage check window at the ticket counter and the baggage claim area. The back-of-house support spaces for the baggage operation include staging, storage, equipment,and handling spaces. Baggage rooms are sized to accommodate transfer and storage, and include cart and/or vehicle storage, shelving, secure cabinets and equipment. Some stations handle pallets and transportation of human remains that must be accepted at separate loading docks.

The requirements for handling checked firearms include a secure storage cabinet for storage of the firearm after it is checked in at the ticket counter and prior to its placement on the train. Movement of the firearm to the train and its placement on the baggage car must also be accomplished with secure or locked equipment, which Amtrak provides and is not a special consideration in the programming or design of the station.

5.13 Amtrak Support Spaces Overview

A number of back-of-house spaces are required for Amtrak staff and equipment at the typical station. These include operational support spaces that are not publicly accessible—staff offices and work areas—baggage areas, and mechanical, electrical, and telecommunications rooms specifically required to support Amtrak operations. Key issues in defining the support space program include the scale of Amtrak staff operations and whether there is a limited or full-scale baggage operation.



The Amtrak Customer Service staff spaces required at a station relate to the station category as follows:

Category 1: Large stations are fully staffed and typically include a multi-position ticket office, baggage services, and a customer service office. These stations require a larger program of staff support spaces including a ticket agent work area, break room, staff restroom, a cash accounting room, and storage. In addition, separate offices are generally required for the station manager and lead clerks or supervisors, and larger, separate accounting spaces can also be required. Employee lockers and restrooms are also typically required near the employee break room. The employee break room is a secure area where the agents can store their belongings and take breaks during their shift, and should include a microwave, refrigerator, sink, and lunch table. At Category 1 stations, support spaces can also include Amtrak Police, commissary and crew base functions;

Category 2: Medium stations that are minimally staffed require a core program of staff support spaces including a ticket agent work area/cash accounting space, break room with lockers and a kitchenette, staff restroom and private office for lead clerk, if present; and

Category 3 and 4: Unstaffed stations are not staffed by Amtrak and do not require Amtrak support spaces, except as required for utility services, including communications and data closets or secure cabinets. (Program space for Caretaker functions consisting of a small office with storage should be provided at Category 3 Stations.)

Amtrak Support Space Program Components Include:

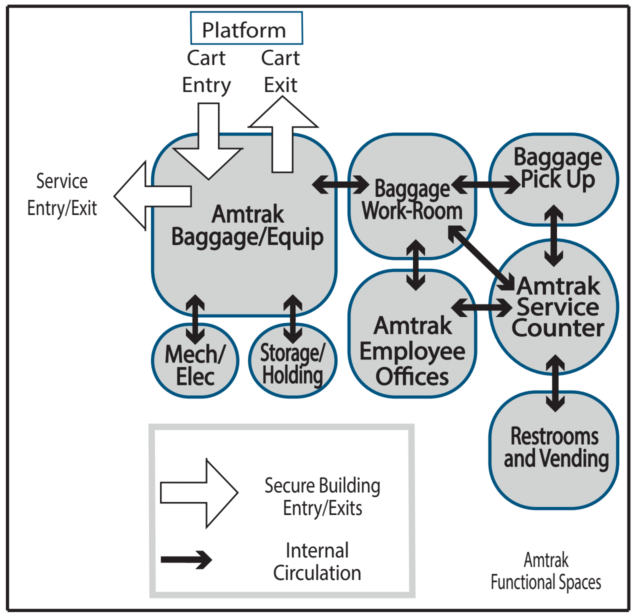
Customer Service Staff Spaces

Baggage Handling
Baggage Claim
Equipment and Storage

Baggage Handling

5.14 Baggage Handling

The two scales of baggage operations found at Amtrak stations, limited or full-scale, are also determinative of the baggage handling program.



The baggage handling function will typically include a baggage handling room, secure storage for unclaimed bags, a separate secure storage area for general station supplies, a secure cabinet for checked firearms, storage and maneuvering space for floats and tugs, and sometimes storage space for a wheelchair lift. In addition, janitor closet or mop room should be in close proximity. The size of the baggage handling area should be scaled to the size of the station and passage capacity, and can be a single space at Category 2 stations, or multiple functional spaces at Category 1 stations.

The back-of-house space requirements for these two levels of baggage operations can vary significantly depending on the specific station size, ridership and services.

In the full-scale baggage operation, the baggage handling room can be a combined large space or two separate spaces including 1) a conditioned space adjacent to the ticket counter, and 2) a larger space that is unconditioned and accommodates tugs and carts, forklifts and other required equipment. In addition, some full-scale baggage operations accept larger package express shipments, and can include a dedicated loading dock with fork lifts capable of handling large items.

If a full-scale baggage operation is implemented at a station that includes more than one platform, a baggage elevator or ramp is required to avoid crossing active tracks with baggage wagons. If there is only one elevator installed to accomodate disabled passengers and baggage wagons, it must be sized appropriately.

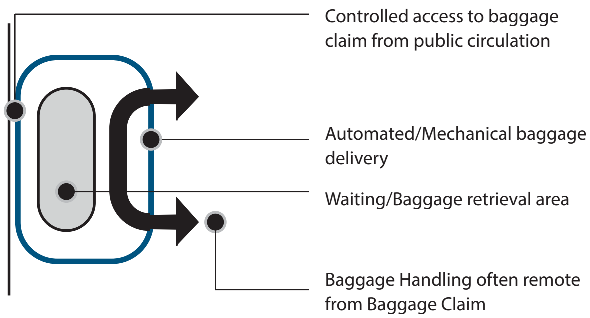
The limited baggage operation should include a baggage handling room that is separate from, but adjacent to, the ticket counter, and has convenient access to the platforms and baggage claim area.

5.15 Baggage Claim

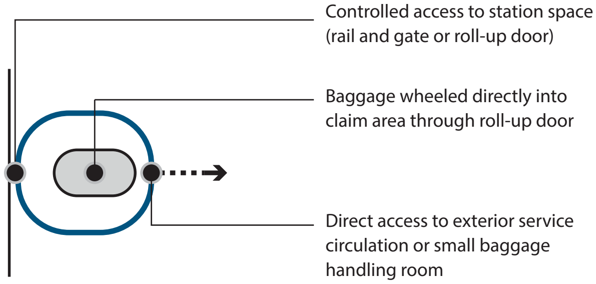
Two types of baggage claim areas are appropriate to Category 1 and 2 stations and are consistent with the two scales of baggage operations found at these stations. Category 3 stations do not provide baggage check services.

The baggage claim process entails travelers being able to retrieve their baggage and have the claim checked by a customer service agent. At limited baggage operations, this can be accomplished directly from a baggage cart rolled into the baggage claim room. At full scale baggage operations, the baggage is delivered to the claim room with controlled access in and out, allowing customers to claim their baggage from a non-mechanical roller or a mechanical belt system, and have their claim check verified by an Amtrak customer service agent.

Sizing the baggage claim area is dependent on the number of trains and passengers with baggage arriving at a station simultaneously. In most cases, as only a single train needs to be processed at one time, one baggage claim area is sufficient. Unlike airports, even at its Category 1 Large stations, Amtrak operates with a single, rather than multiple baggage claim areas.



Category 1
Large Station
Baggage Handling



Category 2
Medium Station
Limited Baggage Handling

Baggage Claim

At large stations with checked baggage operations, Amtrak encourages a dedicated baggage claim room. While baggage claim is currently sometimes handled directly from a cart on the platform or within the station at many Category 2 stations, because of the requirements for baggage security Amtrak prefers that all stations with baggage be programmed with a dedicated and controlled baggage claim area.

Equipment and Storage

Communications and Data Rooms

Passenger Information Display System Equipment

Revenue Equipment

CCTV and Security-Related Equipment

Amtrak Storage

5.16 Equipment and Storage

Communications and Data Rooms

All Category 1 and 2 stations, and many Category 3 stations, require a secure room or closet for installation of communications and data equipment. Category 3 and 4 stations with limited requirements may use secure cabinets for this equipment.

Passenger Information Display System Equipment

The Passenger Information Display System (PIDS) provides dynamic signage that displays electronically updated train arrival and departure information. PIDS equipment is networked to Amtrak's data centers through Amtrak's network, allowing the provision of real time information to the individual station. The equipment needs to be coordinated with Amtrak during station design and construction. Details can be found in Amtrak's Graphic Signage Standards Manual.

Revenue Equipment

Revenue equipment that processes credit card transactions is required at staffed stations with ticket sales, and must be secured in accordance with federal laws for Payment Card Industry PCI compliance. The revenue equipment is housed in a standard server cabinet or rack, with clear space required on the front and back for access to the equipment. The equipment room must be independently accessible within the building without going through Amtrak support spaces.

CCTV and Security-Related Equipment

Equipment serving security monitoring systems may also require racks in secure rooms.

Amtrak Storage

Each staffed station in the Amtrak system is required to keep, on-site, a number of station and employee related records, for a period of not less than three years. This records storage usually requires an area of 40 square feet, and must be securable to maintain its privacy and integrity. In addition to records storage, general storage for station supplies is needed. This general storage can range from approximately 100 square feet at Category 2 stations, up to several hundred square feet or more at Category 1 stations.

5.17 Multi-modal Transit Services

Designing the station to function as an multi-modal transit center is central to the future of efficient public transportation. The integration of Amtrak's intercity passenger rail with commuter rail, subway, street car, and local bus systems is a key step in building ridership for all transit modes. Amtrak's highest levels of ridership are generated at stations that are heavily intermodal, and Amtrak encourages its stations to be designed to accommodate existing local transit services, and planned to accommodate new transit.

It should be noted that the design guidelines in this chapter are oriented primarily to developing an understanding of functional requirements specific to Amtrak. The integration of additional transit services within a station will require separate analysis of the programmatic and functional needs of those services, and their relationship to Amtrak's intercity passenger rail. Although this handbook is written from the perspective of an Amtrak station accommodating other transit services such as commuter rail or bus, the reverse is often true, where a station facility used primarily for commuter rail or transit operations is modified to accommodate Amtrak. Amtrak approaches both of these situations in a cooperative manner to serve the common interest of public transit modes.

In multi-modal stations individual transit agencies often need space for their own ticket or information counters, and ticket machines. Amtrak generally maintains ticketing and customer service operations that are separate from local and regional transit authorities, although in some stations, local agencies can arrange to use Amtrak's ticket counters and machines, which also sometimes requires added Amtrak agent counter positions. Waiting space is typically shared with multiple agencies.

If Amtrak also sells commuter tickets for regional transit systems at a station, the number of agents can be increased. In this case, additional ridership information and projections should be obtained from the participating commuter agency to determine adequate staffing. Commuter transactions are faster and are often based on the sale of monthly passes, and typically, a single agent can serve 30 to 40 commuter passengers in a peak hour. In addition to analyzing ticket functions for shared transit services, waiting and boarding areas and routines should also be understood, with these often requiring separate or additional program spaces within the station.

Station Amenities:

Restrooms

Location

Size

Accessibility

5.18 Station Amenities: Restrooms

Public restrooms are defined as a station amenity in these guidelines because they typically serve all station visitors, including Amtrak passengers and other transit users. Restrooms are an essential component of all Category 1 and 2 stations, and a desirable component of Category 3 stations. General restroom guidelines include:

Location

Restrooms should be convenient to waiting areas or main public circulation areas with readily visible entries. To enhance a sense of security, Amtrak recommends that restroom entries be visible from the ticket counter at Category 1 and Category 2 Stations that do not have on-site Amtrak Police or security services.

Size

Providing adequate space for restroom facilities in the station requires analysis of the station population. As many passengers are traveling with baggage or business carry-ons, restrooms should generally be sized with larger circulation spaces than minimum standards, and consideration should be given to provision of space within the restroom to set down or set aside baggage. Amtrak generally prefers entrances to restrooms to be without doors, utilizing screening walls in the entrance layout to provide privacy. The minimum number of fixtures should be determined by code, but additional fixtures may be required, based upon station usage including providing for peak usage to avoid long queues. Amtrak recommends that a separate, unisex/ family restroom should be provided in the station to serve passengers with special needs, including families with young children. Restrooms are also often located at more than one location in Category 1 stations, and separate, Amtrak-only restrooms can be planned at these large stations adjacent to controlled-access Amtrak waiting areas to make such facilities available to Amtrak customers only.

Accessibility

All newly constructed or newly renovated restrooms in Amtrak stations must be designed to be fully accessible to passengers with disabilities, in compliance with ADA requirements.

5.19 Station Amenities: Retail and Food Services

As stations increasingly become centers of mobility, retail and food service become important contributors to the station's significance in its community. Because mobility is related to efficiency and time, the ability for passengers to eat, shop, and conduct business at a station is becoming increasingly important. As the station becomes a place to spend time, the retail and restaurants become important contributors to station revenues. Accordingly, Category 1 and 2 stations in both medium- and high-density locations should either provide for retail within the station, or plan for retail and food service amenities in the future. These functions will make the station a more attractive environment, and help to increase the use of the public transit services provided at the station.

Retail can include food and beverage service, coffee shops, newsstands, gift shops and kiosks. The amount of retail space should be based upon projected market demand and travel type. Category 1 stations sometimes include destination retail, and the retail operation can provide significant revenues contributing to the operation of the station. The use of retail kiosks and carts can be considered to augment or replace fixed retail spaces, and provide retail opportunities that are more flexible and require less initial infrastructure.

Where significant retail space is provided in a station, standards for retail tenants should be developed that maintain an aesthetic consistency with other public areas of the station. Operational standards should not only address hours of operation to meet passenger demand, but off-hour policies for lighting, such that dark areas of the station are not created in off-peak travel times.

5.20 Station Amenities: Other

Depending on the station size, its location, and support from the community, a number of additional amenities are recommended for consideration in the program:

Information Desk

The Information Desk is an additional customer service element that is sometimes provided at Category 1 stations. This program function is staffed to provide travelers with information about Amtrak schedules and services, way finding within the station, and the locations of retail, food services, and other transit services in the building. The Information Desk is typically a freestanding element located within the circulation concourse, and relatively close to the ticket office.

Traveler's Aid

Traveler's Aid International is an organization that has as its mission "assisting individuals and families, who are in transition, or crisis, and are disconnected from their support systems." The organization maintains a presence in many major transportation centers to provide information and arrange assistance to travelers. Amtrak supports Traveler's Aid by providing dedicated space within select stations.

Car Rentals and Car Sharing

Conventional on-site rental car facilities are frequently included at Category 1 Stations, and on-call rental cars should be considered for Category 2 Stations. Where on-call rental cars are provided, courtesy phones linked to the rental companies should be readily identifiable, and in a location convenient to arriving passengers, such as, an information kiosk that can also provide city maps, promotional information, bus schedules, and other information about local places and events.

In addition, car-sharing services should be allowed in an appropriate number of spaces on-site at stations.

Bike Sharing

In urban or semi-urban locations, bike sharing may be a viable means of local transport. Where appropriate and feasible in these environments, space should be allocated for bike sharing racks.

Vending

Provision of vending machines is important to provide food options to travelers, especially in stations without retail or food service. Vending machines should be located in an area that is easily accessible to main circulation areas and organized into an alcove or other architectural compartment to avoid haphazard and random placement of the machines.

Other Amenities

Amenities such as bank ATM machines and newspaper honor boxes should also be considered for inclusion in the station.

Wireless Internet Access

Passenger use of computers, smart phones, and other electronic devices is increasing the need for electrical outlets in waiting areas. Amtrak is expanding WiFi service to routes and stations throughout the country, with the goal to provide service throughout the network.

Public Lockers

Due to security concerns, public lockers are no longer an acceptable amenity in most Amtrak stations; however, at selected larger stations, storage lockers with advanced security technology may be considered appropriate for deployment. Staffed baggage check services may be considered at Category 2 stations to replace the locker function.

Pay Phones

Amtrak no longer requires pay phones in its stations, but does require a hard-wired device connected to an emergency provider on the platform or adjacent entrance to provide assistance to passengers. However, if pay phones are provided, they should be TTY-capable located in an area visible from the waiting area and customer service counter.

6. Site

6.1 Introduction

Introduction

The station site and building are the links between Amtrak's rail services and the surrounding community. While the station size and the complexity of its site design can vary significantly from location to location, the site design issues included here are consistent across many station categories and locations. The relationship of the station to the community, surrounding development, and other transportation modes is critical to its success. The station site design must plan for the evolving interdependency of Amtrak services and supporting transit modes, as well as the functional requirements of Amtrak's operations.

Amtrak encourages communities to develop a station area master plan based on the station configuration and connections to transit services, the number of tracks that may be necessary to serve the station in the future, platform locations, overhead or tunnel connections to platforms, and the urban context of the station site.

Amtrak maintains a stakeholder position in the station and its surrounding community, especially as it benefits passengers, the potential for increased ridership, and services to persons with disabilities. The success of rail and transportation planning often involves the coordination of local and regional planning efforts, which should be in place prior to the station design. Local land use plans and zoning codes should consider the highest and best use of the land surrounding the station, taking into consideration the potential for higher density, transit-oriented and/or multi-modal development, preservation of historic buildings, economic benefits and local community benefits.

Although most Amtrak stations are located in a community's core or downtown, some are located and designed primarily to facilitate automobile access using the "park and ride" concept. Such stations are typically located in areas of low-density; however, the potential for synergy with development should be considered for such stations.

6. Site

Multi-modal Planning

Locate parking areas to the side of the station rather than in front of it

Plan for the closest connections between Amtrak and other transit modes as possible

Salt Lake City Central Station intermodal hub, Salt Lake City, Utah

6.2. Multi-modal Planning

Because of the importance of intercity passenger rail and transit to sustainable growth patterns and the nation's infrastructure, Amtrak places a high priority on linking its stations to other transit modes. The development of intercity passenger rail stations as multi-modal transit centers increases transportation options and makes Amtrak more available to potential riders. Station developments that tie local and commuter bus, light rail, commuter rail, heavy rail, bus rapid transit, or intercity bus together allow for more convenient trips, and a central point of transportation for communities. Amtrak encourages Transit-Oriented Development (TOD), with mixed-use, high-density development located around stations served by high-frequency HSR or Corridor services. A master plan should be developed for the station vicinity, to plan for low-density locations growing to medium-density, and medium-density sites transforming to high-density urban locations as they mature, or the preservation of rural or historic community adjacent to a station.

6. Site

Context

Create a pedestrian-oriented interface between the city and the station, with the station entrance tied as closely to its urban setting as possible

Plan the station entrance to be clearly identifiable to both pedestrians and vehicles approaching the building

Amtrak encourages provision of additional amenities at the station including benches, covered walkways, bus shelters, bicycle racks, and other features. Amenities responding to the local environment can include shade structures and tree plantings in hot, sunny environments, covered walkways in rainy environments, sheltered areas where conditions can be windy and cold, etc.

Davis, Calif. station

6.3 Context

The station location and the characteristics of the surrounding site play an important role in determining the station size, configuration, and ridership. Amtrak's stations are generally located at one of three types of sites, each of which has a specific set of design considerations:

1. High density, urban sites with close-by mixed-use development and integrated public transit;
2. Medium density, city or suburban sites with many of the characteristics of high-density sites, but generally less intense; and
3. Low density, town, suburban, or rural sites with less intensive adjacent development, and reliance on automobile or bus access.

6. Site

Context

High Density Locations

City Center/CBD

Intensively developed urban edges

Washington Union Station during its 1980s renovation

High Density Locations

Stations in high-density urban areas should ideally be planned as grade-separated facilities with tracks and platforms located below grade, allowing urban development to be closely adjacent to the station, frequently built over the tracks. With the city fabric surrounding the station on all sides, multiple entry points to the station for pedestrians and connections to transit are important. Pedestrian access to urban stations is critical, and planning for connections to subway, streetcars, taxis, buses, and parking becomes an important step in the design process to minimize impacts on pedestrians, and to ensure that there is adequate transit capacity to move passengers to and from the intercity rail services.

Stations located in urban, high-density areas will only increase in ridership over time, and it is important to plan for a building and track configuration providing maximum capacity and flexibility, as unplanned expansion in the future will be extremely difficult to accommodate without such provisions.

High Density/Urban Site Characterstics

Service Types	HSR/State Corridor/Long Distance
Configuration	1. Vertical 2. Terminal 3. Side
Multi-Modal	Subway, commuter rail, streetcar, pedestrian, bus
Mixed Use	Retail, retaraunts, office, residential, hotel, government, cultural, and entertainment uses
Amtrak Program	Service areas, loading, trash located internally
Parking	Low ratio, structured
Station Categories	1. Large 2. Medium

6. Site

Context

Medium Density Locations

Small city center

Urban edge/suburb

Town center

New Carrollton, Md., multimodal station

Medium Density Locations

The medium-density site can be found in a large variety of locations, including town or city centers that have limited or minimal public transit, as well as in suburban and urban edge locations. Because these sites are typically less well served by public transit than high-density sites, a relatively greater land area surrounding the site is generally required for vehicular circulation: buses, taxis, and autos. With less readily available retail and food service in the areas surrounding the station, it is sometimes important to provide for retail and restaurants within the station building.

Stations in medium-density locations should often be planned to serve higher-density environments over time, as intermodal transit services are improved and mixed-use development surrounding the station increases. For instance, surface parking can be converted to structured parking, and adjacent small-scale development can be replaced with larger mixed-use projects.

Medium Density/City-Suburban Site Character-

Service Types	State Corridor/HSR/Long Distance
Configuration	1. Vertical 2. Side with platform bridge/tunnel
Multi-Modal	commuter rail, streetcar, pedestrian, bus, auto
Mixed Use	Retail, retaraunts, office, residential, entertainment uses
Amtrak Program	Service areas, loading, trash located internally or adjacent to building in screened area
Parking	Medium ratio, structured or surface
Station Categories	1. Large 2. Medium 3. Caretaker

6. Site

Context

Low Density Locations

Town center

Suburb

Rural/commuter

Saratoga Springs, N.Y., station

Low Density Locations

The low-density site can be found in a large variety of locations, including town centers that have limited or minimal public transit, as well as in suburban and urban edge locations. Low-density sites are less well-served by public transit than high- and medium-density sites, and the relatively greater land area surrounding the station is often minimally developed or built with low-density residential uses. Access to low-density sites is oriented to vehicular circulation: buses, taxis, and autos. With less readily available retail and food service in the areas surrounding the station, it is sometimes important to provide for retail and restaurants within the station building.

Stations in low-density locations should be planned to evolve to a more intensive development prototype, and as at medium-density sites, surface parking can be converted to structured parking, and adjacent small-scale development can be replaced with larger mixed-use projects.

Low Density/Town-Suburban Site Characterstics

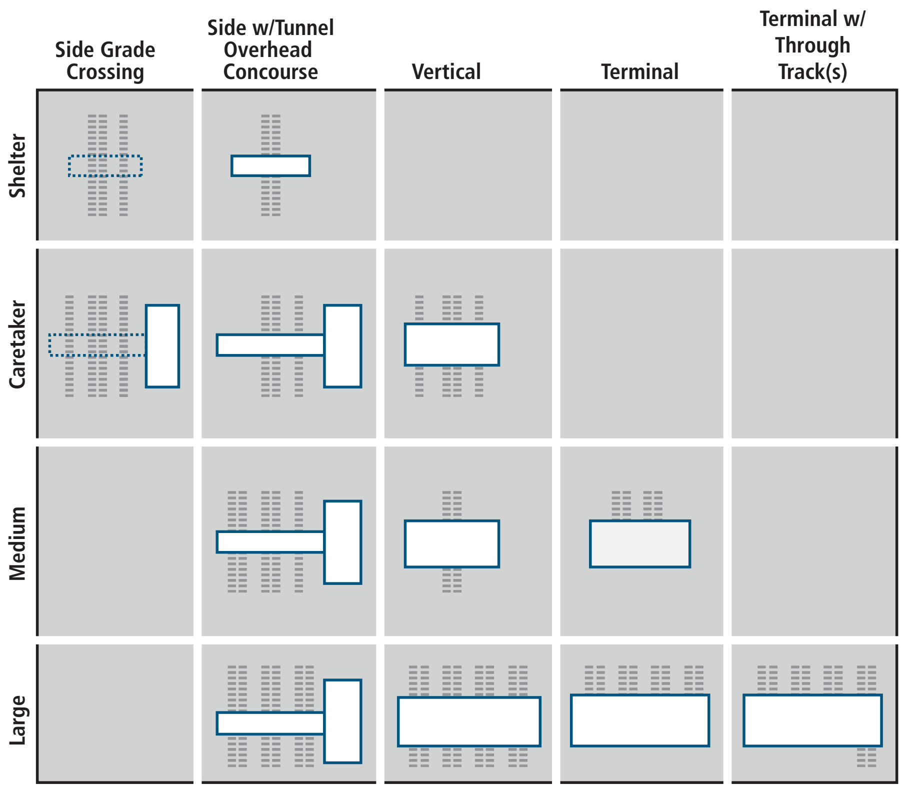
Service Types	State Corridor/Long Distance
Configuration	1. Side 2. Vertical
Multi-Modal	commuter rail, pedestrian, bus, auto
Mixed Use	Minimal supporting land use in areas adjacent to station - need for provision of services within the building
Amtrak Program	Service areas, loading, trash located adjacent to building in screened area
Parking	High ratio, structured or surface
Station Categories	2. Medium 3. Caretaker 4. Shelter

6.4 Station/Platform Configurations

The station site and relationship to its context is interdependent with the station relationship to the tracks. Three station configurations are found within Amtrak's system: side, vertical, and terminal. Principal characteristics of each configuration are as follows:

- The **side configuration** is the most common type, and consists of two variations, with either a single track and side platform, or if in a two-track section, a single platform with grade level crossing to provide access to the outer track on the limited occasions when the passenger train is not switched to the platform track; or two platforms connected by a bridge or tunnel. Grade level crossings are present at existing stations, but will not be permitted at new stations for safety reasons;
- The **vertical configuration** is the second most common station type, and provides for a compact site arrangement and an efficient connection between passengers and platforms; and
- The **terminal configuration** is the least common, and is located only as needed in the system, primarily at Category 1, Large stations, such as Washington, D.C., or Los Angeles; or Category 2 Stations where service ends or reverses direction, such as Tampa or Oklahoma City.

Note that no new pedestrian grade crossings will be permitted, except where integrated into an existing vehicular roadway grade crossing.



Station/Platform Configurations

1. Side Configuration

The most common station type is a location beside the tracks with either a grade crossing or an overhead or tunnel connection to platforms.

2. Vertical Configuration

The passenger concourse is located either directly above or below the platforms and tracks.

3. Terminal Configuration

The tracks terminate at the station with access at the platform end, or sometimes above.

Station/Platform Configurations

Side Configuration

Single overhead/tunnel connection from station to platform

Center station/connection to platforms at the platform middle

Allow for potential station expansion linearly, parallel to tracks

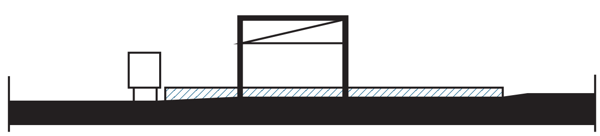
The topography of the site is a also a key planning and design consideration, with the possibility to eliminate one vertical circulation move if the floor elevation of the station is either above or below the track level.

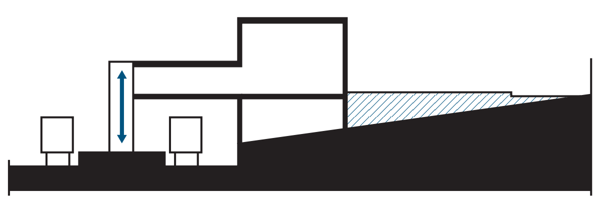
The historic Fort Edward, N.Y., station is a classic side configuration typical of older facilities

Side Configuration

The side configuration is found at the majority of Amtrak stations. The station is located to the side of the tracks and platforms, and is linked to the platforms either at-grade, or through a tunnel or platform bridge. This station is applicable across nearly the full range of station categories, from small to large. Characteristics of the side configuration include:

- Classic head-house and concourse configuration;
- Connection to the tracks either at-grade or through platform bridge/tunnel;
- The station and platform/tracks are physically independent from each other resulting in more planning and design flexibility, and the ability to make changes;
- Where site topography allows, tracks can be located above or below the floor level of the station, eliminating one vertical circulation move;
- All locations with HSR or State Corridor services should be planned to include a platform bridge/tunnel connection; and
- At-grade pedestrian connections to platforms requiring passengers to cross active tracks are discouraged and will only be considered at locations with only limited Long Distance service with the approval of the host railroad.





6. Site

Station/Platform Configurations

Vertical Configuration

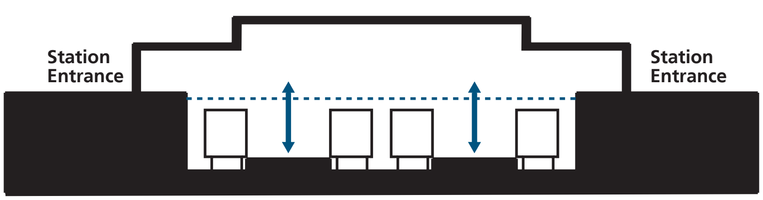
A station design that proposes to locate some or all of the passenger facilities above the tracks must comply with Amtrak's overbuild design policy (EP4006) or comparable standards from the host railroad, as applicable.

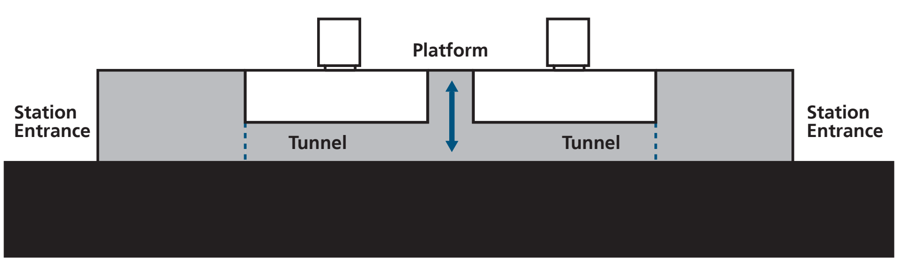
The Wilmington, Del., station uses elevated tracks and platforms

Vertical Configuration

The vertical configuration, with the station located above or below the tracks and platforms, is an efficient station configuration that is well-suited to medium- and high-density sites. While this configuration can sometimes be found as Medium or Caretaker stations due to topography, it is more suited to Category 1 stations due to its relatively more intensive station infrastructure and development costs. Characteristics of the vertical station configuration include:

- Well suited to high- or medium-density urban and suburban locations;
- Efficient connection of passenger concourse to platforms;
- Requires that only a single vertical circulation movement is necessary for passengers to connect to platforms; and
- Provides for a compact site arrangement and an efficient connection between passengers and trains.





Station/Platform Configurations

Terminal Configuration

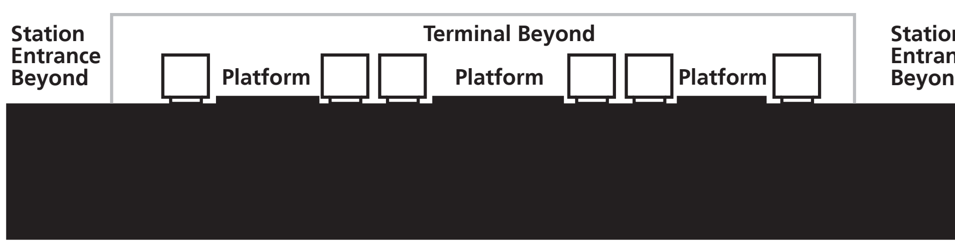
Concept rendering of the Grand Rapids, Mich., station project

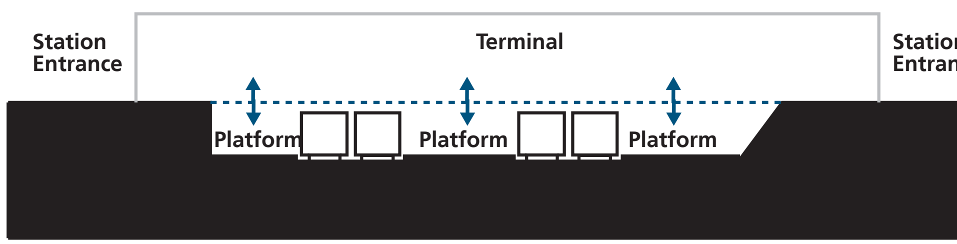
Terminal Configuration

The terminal configuration, with the station located at the end of the tracks and platforms, is primarily the result of a station's position in the Amtrak network, and is typically found in large urban areas or at the geographic limit of Amtrak services. An important variation of the terminal is a station that includes both terminal and through tracks. The terminal configuration is applicable to Category 1 Large stations, and in some cases is also used at Category 2 Medium Stations.

Characteristics of the terminal configuration include:

- Less frequent station configuration than the Side Configuration and the Vertical Configuration;
- Requires greater land area as tracks and platforms are typically spread out laterally across the site;
- Trains frequently remain at the terminal for longer periods than at through-stations, occupying more track and platform space; and
- Train movements are more cumbersome as trains must reverse direction coming in and out of the station.





6.5 Track and Platform Planning

Track and Platform Planning

Design Considerations

The track and platform arrangement at a station site is one of the most critical elements determining the operational efficiency and capacity of the station, and the siting of new stations must carefully consider the future requirements for tracks and platforms. Track and platform planning include determining the number and lengths of platforms needed, their spacing, and access to them, which is based on:

- The ridership at the station (the number of trains per day serving the station and daily passengers);
- The service type or types at the station-Long Distance, State Corridor, HSR, or a combination of these types;
- The train consists associated with each service (which determines platform lengths);
- Whether the ROW is dedicated to passenger rail only, or is shared with freight; and
- Whether the station is through-service stations as well as a terminal.

The layout of the tracks and platforms on the site is often predetermined by existing conditions, as newly constructed passenger rail right-of-way occurs infrequently. However, this often entails that the new or modified station building be given even more careful consideration in its siting, as plans may need to include leaving space for additional tracks adjacent to the building. Track and platform site planning guidelines include:

- HSR and Corridor services, which have more frequent trains than Long Distance service, should be planned with an overhead or tunnel pedestrian connection from the station to the platforms;
- Consider using site topography to eliminate one vertical circulation move from the station to the platform where an overhead or below grade pedestrian connection is required—locating the main floor of the station at an elevation either above or below the track level;
- Center the station on the platforms wherever possible, with access to the platforms from within the station;
- Provide room for station and passenger waiting area expansion;
- Plan the station site where tangent (straight) tracks are available to accommodate the full required platform lengths;
- Select a site where platforms can be constructed at near-level along their length, with a maximum slope of two percent; and
- Plan for possible use of a bypass track to allow passenger and freight traffic to be independent at the station, where passenger lines are located on freight railroad ROW.

Vehicular Circulation

Bicycle racks are of particular importance, as it is not unusual for Amtrak passengers to commute to a station by bicycle. Bicycle storage areas should be located in close proximity to the station. A canopy should be provided, where feasible, to afford weather protection. Bike lockers, if proposed, should be bomb proof, and coordinated with security teams for type and placement.

Design vehicular circulation for low speeds near the station

Minimize widths of roads and cart-ways at pedestrian crosswalks and station entrances

Utilize pavement design to give priority to pedestrians over cars, including the use of speed tables and special pavers to slow vehicular traffic

Design for visibility of exterior public areas from within the station, and of public areas inside the station from the site.

Provide fencing in order to control access to the platforms

Provide site lighting to enhance security and safety, and to reinforce the station as a visual landmark

Utilize bollards, planters, or other security barriers to protect the station building and platforms from vehicles

6.6 Vehicular Circulation

Vehicular circulation leading to and within the station site must be planned to balance the use of the private automobile with pedestrian and transit access to the station. Transit access to the station should be prioritized over private automobile access, with connections to the city bus system and other transit as close to the main entrance of the station as possible. Site circulation guidelines include:

- The visual approach to the station should be simple and clear to reduce confusion to the arriving passenger;
- Plan the view to the station entrance to be across an open space or down a street, rather than across a parking lot;
- Prioritize pedestrian access to the station and the connection of the station to public transit;
- Design for drop-off traffic, parking access, local buses, taxis, and service vehicles, providing separated circulation where needed at larger stations;
- Based on a risk assessment, determine requirements for vehicle separation from buildings according to site security needs, establishing where necessary a minimum stand-off distance for vehicular parking and drop-off from passenger facilities; and
- Service access to the building should be clearly separated from public circulation, and planning should include controlled access to service yards and loading docks.

6.7 Bicycle Parking

Across the US, the bicycle is growing as a mode of transportation to work, school, shopping and for other errands. Bicycle parking at Amtrak stations can range from simple racks to elaborate facilities such as the “bikestation” at Washington Union STation. Bicycle racks should follow the Association of Pedestrian and Bicycle Professionals (APBP) and local recommendations for design, placement and quantity. Other important considerations include;

- “Staple” or “Inverted-U” racks are encouraged, “Dishpan” racks should not be used, and “Wave” racks are highly discouraged;
- Racks should be securely anchored to the ground, and should resist cutting, rust, bending or deformation;
- Bicycle parking should be located close to station entrances and platform entrances as is practical; multiple locations may be appropriate;
- Bicycle parking should be sheltered from inclement weather if possible; and
- Bicycle parking should be well illuminated and included in CCTV field of vision if CCTV is installed.

6.8 Parking

The overall design and arrangement of parking areas should relate to the proximity of station entrances and exits, drop-off circulation, station service access, and local streets. While local codes and site conditions will play a large role in determining parking lot and vehicular circulation design standards, the following guidelines are recommended:

- Locate structured parking adjacent to the station building, rather than within, above, or below it;
- Provide separate parking areas for Amtrak State Corridor and Long Distance services where a station has significant ridership within both service types to permit long-term parking;
- Provide separate parking for Amtrak and non-Amtrak commuter services where possible, providing adequate spaces for both types of services(commuter parking can create difficulties within Amtrak's system, as commuters arrive early in the day, taking parking close to the station that then is not available for later Amtrak departures);
- Locate parking spaces for Amtrak's Long Distance passengers as close to the station as possible, due to the likelihood of passengers carrying baggage (this must be balanced with the need to locate short-term and drop-off spaces close to the building as well)
- Distribute ADA compliant spaces among all parking types (short- and long-term, pick-up/drop-off, etc.);
- Determine the need for separate Amtrak employee parking at stations with larger staffing levels or a crew base; and
- Use 90-degree parking stalls for both short- and long-term parking where possible.

Parking at the Richmond, Calif., station

Parking

Determination of the amount of parking to be provided at a site should be based both on local zoning codes and Amtrak's projected requirements. While almost all localities incorporate minimum requirements for parking into their zoning codes, it is critical to compare the minimum requirement with actual projected parking requirements as ridership can be severely impacted by a lack of adequate parking. Amtrak recommends that parking capacities at its stations should be based on at least a twenty-year projection of ridership growth.

Amtrak Functional Requirements

Amtrak encourages provision of additional amenities at the station including benches, covered walkways, bus shelters, bicycle racks, and other features. Amenities responding to the local environment can include shade structures and tree plantings in hot, sunny environments, covered walkways in rainy environments, sheltered areas where conditions can be windy and cold, etc.

6.9 Amtrak Functional Requirements

When planning the site, providing for Amtrak's functional requirements is primarily related to siting the station building, platforms, and tracks. However, vehicular service access to the station building, loading areas, and sometimes the platforms must also be considered. Specific site requirements for Amtrak operations typically include:

- Provision of separate vehicular access to the building for shipping larger items by Package Express (Amtrak provides shipping of large items at some locations and can require a dedicated loading dock with access to Amtrak baggage facilities);
- Loading areas for trash and recycling;
- Visual screening of service and loading areas and at-grade mechanical equipment;
- Provision of a secure perimeter around the service and loading areas controlling and limiting vehicular access;
- Separate access from the site directly to the platforms for snow removal, vehicular access to the tracks or platforms where trains are serviced or fueled (note: site maintenance, including snow removal, mowing, and landscaping is typically provided by outside contractors who bring their own equipment to the site) ;
- Emergency egress from platforms (see Chapter 7);
- Additional site area can sometimes be required for Amtrak service and official vehicles; and
- Suitable bus berthing location for use when providing Thruway bus service or a temporary "bus bridge".

6.10 Information Systems and Way Finding

The site around the station should be organized to welcome passengers and provide clear and consistent way-finding information, with architectural and landscape design utilizing visual landmarks, pathways, and sight lines to direct pedestrian and vehicle traffic to entrances and destinations. Building entrances and connections to local transit should be readily identifiable, with a consistent visual vocabulary that incorporates a system-wide approach to information signage and way-finding.

Amtrak will often be one of several transit services located at a station, and thus Amtrak signage will often need to be integrated with other signage, in a coordinated and unified way that simplifies wayfinding to all transit services.

Amtrak provides assistance in planning station signage in the Amtrak Graphic Signage Standards Manual. Signs that are located on the non-platform, curbside, or street side of the station provide wayfinding to and from the station, station identification, vehicular direction, and curbside information. These signs are designated in the manual as type "C," summarized as follows:

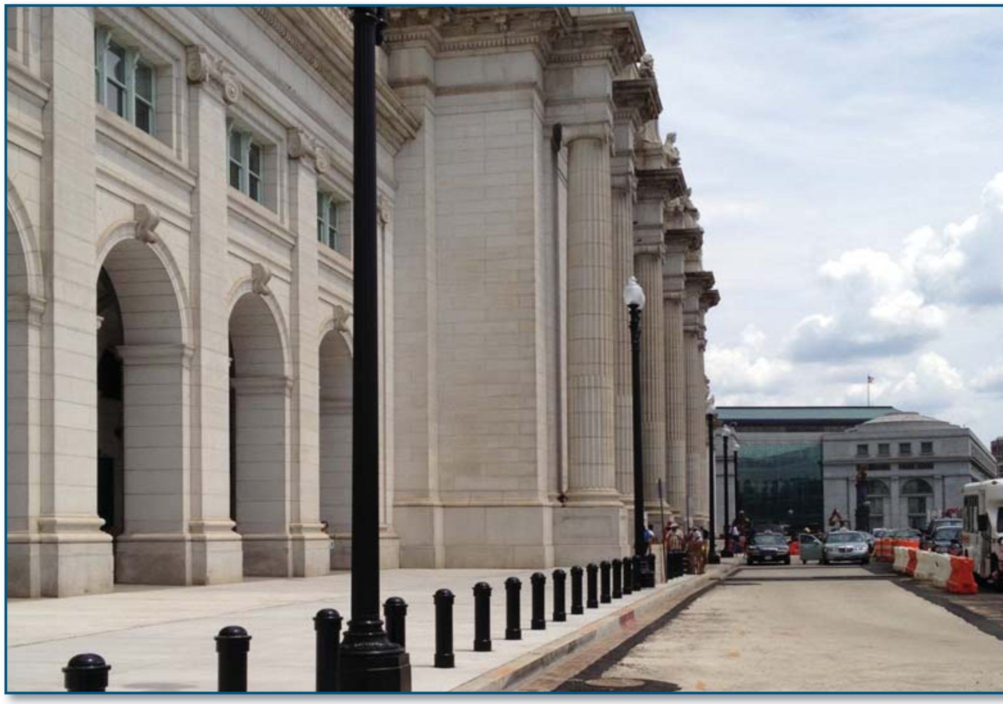
- Curb identifier sign (C1 and C2);
- Vehicular directional signage (C3 - C6);
- Freestanding post and panel signs;
- Site identification signs (C7 and C8);
- Freestanding vertical and horizontal site identification signs (C9 - C12);
- Trailblazer kits (C15 - C19); and
- Station entrance identifier (C20).

Information Systems and Way Finding

See also: Amtrak Graphic Signage Standards Manual (GreatAmericanStations.com)

Safety and Security

See also: Interagency Security Guidelines in the General Services Administration Site Security Design Guide



New bollards are installed in front of Washington Union Station

6.11 Safety and Security

A number of design strategies can be employed to enhance the safety and security of the station and its site. This includes both personal safety and security achieved through crime prevention, and counter-terrorism. Passive security design should be employed to the greatest extent possible, creating a station environment that is an active place, with good visibility of all public spaces to and from one another. Amtrak provides input on station security and protection against terrorist threats and assists in planning and designing security measures at Amtrak-served stations. Design strategies that help to enhance passenger safety and security include:

- Design vehicular circulation for low speeds near the station;
- Minimize widths of roads and cart-ways at pedestrian crosswalks and station entrances;
- Utilize pavement design to give priority to pedestrians over cars, including the use of speed tables and special pavers to slow vehicular traffic;
- Design for visibility of exterior public areas from within the station, and of public areas inside the station from the site;
- Design to maximize clear lines-of-sight within the station and in the surrounding site
- Provide fencing in order to control access to the platforms;
- Provide site lighting to enhance security and safety, and to reinforce the station as a visual landmark;
- Determine appropriate setbacks for vehicles from passenger facilities including the station and platform based on a risk assessment of the facility;
- Utilize bollards, planters, or other security barriers to protect the station building and platforms from vehicles; and
- Provide direct access routes for emergency responders, and to the extent feasible, for emergency vehicles.

6. Site

The new Saco-Biddeford, Maine, station is renowned for its "green" architecture and construction

6.12 Sustainable Design

A sustainable approach to site design is important to Amtrak's vision of rail travel as "safer, greener, healthier." Rail transportation has a comparatively small environmental footprint compared to other passenger transport modes. Accordingly, the site design consideration that should be given primary attention in contributing to sustainability is planning for transit use and making connections between Amtrak and local transit as efficient as possible. This does not diminish the importance of including "green design" considerations in the station design process. As part of the site design for sustainability, Amtrak recommends the following issues be considered:

- Plan for solar orientation and provide areas for photo-voltaic cells, on building roofs or other site areas;
- Provide equal or better access from city buses and other forms of public transit to the station, compared to access from parking lots;
- Prioritize parking for bicycles, locating it close to the station entrance, and in a secure area;
- Consider locating a bicycle sharing station at the site if the local jurisdiction has adopted a bike-sharing program;
- Minimize automobile parking (consistent with ridership demand), and its attendant impervious, paved areas;
- Provide car sharing spaces (such as ZipCar);
- Plan for charging stations for electric vehicles;
- Reduce impervious surfaces to minimize storm water runoff, and use native plants to assist in groundwater recharge;
- Provide rain water collection for site irrigation;
- Provide for trees along streets, access roads, and in parking lots to reduce the heat island effect of paved areas;
- Use drought tolerant native plants to minimize irrigation requirements; and
- Research specific guidance in the International Green Construction Code (IGCC) and

Sustainable Design

Environmental Contaminants

Both new facility and existing rail facilities have the potential to encounter environmental contaminants, including hazardous materials in soils and ballast, lead paint, and asbestos containing materials. Railroad use of coal, diesel fuel, or electrical transformers containing polychlorinated biphenyls (PCBs) has sometimes resulted in residues of these materials being contained in the soils and ballast at a project site.

Amtrak's Environmental Services unit handles environmental issues at stations and other locations on Amtrak property, and should be contacted and involved very early in the planning process in any project on Amtrak Property that has the possibility of encountering environmental contaminants. Environmental issues on sites not owned by Amtrak must be resolved through coordination with property owners and environmental agencies having jurisdiction.

Universal Design

Accessibility

See also ADA Standards for Transportation Facilities

6.13 Universal Design

The technical requirements for site design for accessibility are well covered by building codes and ADA requirements, including requirements for accessible parking spaces and accessible routes from transit and parking to the station entrance. ADA requirements also influence the size, type, an location of site signage. Amtrak encourages communities to take a comprehensive view of accessibility design, and utilize universal design principles in planning for accessibility at the station site. This includes careful consideration of the actual use patterns of passengers.

Examples of universal design principals include:

- Drop-off of disabled passengers, with consideration given to covered waiting areas for disabled passengers to wait for their accompaniment to park and join them;
- ADA compliant pedestrian pathways should be provided as part of the entire site pedestrian circulation system, integrated as a single system, and minimizing ramps, lifts, or elevators that are separated or physically distant from main paths of travel;
- Connecting to the city or town sidewalk system and adjacent uses;
- Pedestrian conflicts with vehicular routes should be avoided or minimized;
- Passengers with disabilities should not be required to cross traffic lanes;
- Provide exterior locations for service animals to relieve themselves;
- Provide audio indicators at crosswalks; and
- Incorporate induction loop systems at service counters.

7. Station

Introduction

Station Design Process

7.1 Introduction

The guidelines presented in this section are intended to aid development of the functional program of the station, and its relationship to the configuration of the building derived from the conditions of the site, tracks, and rail service provided. While Amtrak's station buildings range from large to small, and historic to contemporary, the functional components within the station share many similarities. This chapter covers four areas of station design:

- Design overview;
- Amtrak and station program components; and
- Design checklists for information systems and way-finding, safety and security, sustainability, and accessibility.

Station Design Process

One of the first steps is determination of the station programmatic requirements. The program components that should be included in the station will determine its size and functional layout. Once the station category and general station characteristics have been identified, the specific sizes and functional characteristics of each program component need to be determined. Designing or renovating an Amtrak-served station starts with an understanding of the primary functions of the station, and the spaces and features required to accommodate these program functions. Whether the station is small or large, it will generally contain some combination of the principal program components illustrated here.

The space program for each station must be reviewed with Amtrak to allow for planned future service and route changes, space requirements for crew and mechanical staff, as well as other business and route plan considerations. Along with this chapter, the *Amtrak Platform Design Guidelines* should also be used as an integral part of the station design process since the station building and platforms are closely related. Detailed design considerations for materials, finishes, furnishings, fit-out, and colors are included in Chapter 9.

The passenger rail station should be an open and inviting facility, with transparency maximized by utilizing as much glass at ground level as possible. Transparency between and among the main building components will help to enhance circulation and way-finding, heighten a sense of activity, and enhance security in the station. Natural daylighting and exterior views are an essential aspect of achieving an open and engaging public space.

Station design need not strive for nostalgia, butshould incorporate more contemporary design elements appropriate to their use and function. Contemporary design is not at odds with Amtrak's historic stations. Amtrak is dedicated to their preservation and rehabilitation, with improvements to historic stations designed to be compatible with the station's original architecture. However, this does not dictate that historic styles be replicated in new construction. Rather, existing buildings or components of a building that are architecturally significant can be restored and preserved, alongside newly added design elements of a more contemporary nature that contrasts with historic architecture.

Seattle's historic King Street Station is not only an intermodal hub but a community landmark

7.2 Architectural Overview

The design character of the station should be reflective of the primary functions of the building as:

- A facility that processes movement of passengers between transportation modes;
- A building that plays an important civic role in the city—a gateway, a center, a focus to the community; and
- A multi-use facility potentially serving not only rail transportation, but other transportation modes, and often retail, office, or hotel uses.

To fulfill these multiple roles, the station should be designed with an organizational simplicity, creating an architecturally intuitive plan that utilizes spatial hierarchy, lighting, and other architectural cues to provide a clear and understandable way of moving through the building and finding needed services. Amtrak encourages the station building and its elements to utilize a contemporary expression representing rail transportation as a modern transportation mode, with an open and inviting concourse, naturally lit, and with views in and out. When carefully considered, historic buildings can be renovated with contemporary elements as well, allowing the historic elements of the building to be easily identified compared to the new.

7.3 Information Systems and Way Finding

Information Systems and Way Finding

The ability of the traveler to navigate the station and find Amtrak services, station amenities, retail, local transit, or other needs is determined by how the design of the station facilitates way-finding. The design of the station's way-finding and the passengers' understanding of the building can be enhanced by the hierarchies of the spaces within the building, the use of lighting, and the use of prominent architectural elements or colors to demarcate entrances, paths, and destinations.

The use of consistent information systems is vital at all phases of the station experience to passengers, particularly those new to train travel. The signage design concept into must be incorporated into the design process at its beginning, with signage locations relating to the building design - at entrances, at locations where circulation divides or combines, and boundaries between transit and other functions.

Two types of information signage are typically required in a station: signage that is constant (static) and signage that changes frequently (dynamic). Static signage generally provides way-finding to station services and platforms, and is fixed, being altered only when required by operational change (addition, deletion, or relocation of a function). Dynamic signage changes frequently, and is typically displayed electronically. Dynamic information systems at stations are referred to as Passenger Information Display Systems (PIDS).

Amtrak's station signage standards have been devised to reflect a recognizable Amtrak visual image at all Amtrak stations, and be adaptable to a variety of site conditions. Amtrak's Graphic Signage Standards provide a system of organizing information in a consistent hierarchical manner and include the following:

- Way finding to the station;
- Way finding to the gates and platforms;
- Arrival and departure information;
- Identification/location of station amenities; and
- Amtrak corporate identity

The Amtrak Graphic Signage Standards Manual provides guidance in planning station signage and naming. Signs that are located on the non-platform, curbside, or street side of the station provide way-finding to and from the stations, station identifications, vehicular direction, and curbside information. These signs are designated in the manual are summarized as follows:

- Curb identifier sign;
- Vehicular directional signage;
- Freestanding post and panel signs;
- Site identification signs;
- Freestanding vertical and horizontal site identification signs;
- Trailblazer kits; and
- Station entrance identifier signs.

Static Signage

Amtrak signage standards include a color palette. Amtrak blue is used consistently for signage and corporate identity, and should stand out within the interior environment - this blue should be used sparingly in non-signage applications, and its use avoided on walls and ceilings.

See also: [Amtrak Graphic Signage Standards Manual]

Static platform signage at Pauls Valley, Okla.

Static Signage

Floor mounted signs or freestanding signs tend to become collection points for people, other signs, and miscellaneous equipment, often creating bottlenecks.

The information systems in the building should also build consistent Amtrak branding accommodated in the boarding of trains.

For projects with significant accessibility issues, it is suggested that designers seek the guidance of reputable groups that represent people with disabilities and understand their environmental needs.

7.4 Passenger Information Display System (PIDS)

The Passenger Information Display System (PIDS) is an audio-visual passenger information system conveying real-time station and train arrival information. The PIDS system provides both audio and visual messages relating to train arrivals and departures, and serves passengers who may be hearing or visually impaired. PIDS equipment should be located at one or more points within a station depending on its size, and includes digital signage LCD or LED monitors (that can be kiosk elements, wall-mounted, or ceiling-hung), and also includes a public address system which provides train arrival and departure information and passenger announcements throughout the station and platform. Text to speech capability is also provided with PIDS.

Audio announcements should be delivered in a consistent manner as well. Amtrak has developed standard public announcements to present train arrival, departure, and general information to passengers in an effectie way and to make emergency and security announcement s in a prompt and uniform manner.

The PIDS system must provide up-to-date information ot all passengers, including hearing and visually impaired, through visual displays and audio announcements. PIDS systems can be used to convey the following:

- Current time;
- Train arrival and departure times;
- Train arrival and departure gates and platforms;
- Car positions at the platform for First Class, Quiet Car and Sleepers;
- Destinations served by the arriving train; and
- Informational messages.

Passenger Information Display System (PIDS)

PIDS includes both dynamic informational and message displays on video displays and public address audio systems to provide the same information to the visually and audio impaired. fire and life safety systems and security video systems are separate, and generally do not use the same components as PIDS. If these system use common equipment such as speakers, their programming must be designed to give priority to emergency announcements.

Gate signage in the Philadelphia 30th Street station

Safety and Security

References:

U.S. General Services Administration Site Security Design Guide

Interagency Security Committee's Best Standards and Practices

7.5 Safety and Security

Safety and security in Amtrak stations starts with the overall design of the station site, buildings, and platform, utilizing principles of defensible space and providing a high degree of visibility and activity. Active security systems can be used to augment passive security design, including CCTV, access control, and other methods. At Category 1 Large stations, Amtrak police facilities are generally provided. Safety and security are also dependent on design of the building and platform egress systems as well as the structural and material characteristics of the building. While it is beyond the scope of these guidelines to provide detailed structural and life-safety guidance, the references cited here should be consulted.

Safety and security design considerations include the following:

- The waiting room and public circulation spaces are to be visible from the ticket window and easily surveyed by CCTV cameras with minimal hiding areas;
- The internal layout of restrooms should allow for a view of the overall space once inside, while providing privacy for the entrance doors opening and closing;
- At Category 1 Large stations, a police podium may be provided, which is a raised desk from which officers can observe the station;
- Police facilities at Category 1 stations generally include a ready room, holding area, locker and restrooms, reception/front desk, as well as a supervisor's office, and sometimes a K-9 facility;
- The police facilities can also provide space for video surveillance and monitoring equipment such as Closed Circuit Television (CCTV) systems;
- At Category 2 Medium and smaller stations, police facilities are not required, but CCTV may be provided with surveillance both in and around the building, if monitoring and response can be performed by local police;
- When CCTV is provided, locations and cameras must be coordinated with signage and other potential obstructions; equipment racks may be co-located with PIDS racks in communications and data spaces;
- The building's air intake and other mechanical equipment is to be sited in accordance with Amtrak's Engineering Standard Design Practice; and
- At Category 1 stations, plan for controlled access to platforms, and where operationally desirable, waiting rooms.

7.6 Sustainable Design

Sustainable Design

Sustainable design has come to be widely accepted in the building industry, and the body of research and knowledge regarding this topic is expanding rapidly As discussed in 6.11, planning the station for efficient intermodal connections to public transportation is perhaps the most significant sustainable design feature that can be built into a station.

The United States Green Building Council's Leadership in Energy and Environmental Design (LEED) provides a widely accepted method for scoring a project's sustainability attributes. Amtrak supports the use of the LEED system in the design of its stations, and also encourages that station projects consider sustainability strategies holistically. These guidelines do not seek to summarize sustainable design practice -- readers are encouraged to review the International Green Construction Code (IgCC) and the Amtrak SDPs, an outline of key sustainable design strategies relevant to station planning and design, roughly parallel to the LEED rating categories, includes:

Energy

- **Orientation** - passive design techniques and thermal mass;
- **Monitoring** - sub-metering and real time monitoring;
- **Daylighting** - minimal artificial lighting during the day;
- **Lighting systems** - low energy lighting sources and adjustable controls;
- **HVAC** - employ passive systems where possible and high-efficiency systems otherwise;
- **Equipment** - selection of energy efficient systems and appliances; and
- **Commissioning** - balance and calibrate building systems for optimal performance.

Materials and Waste

- **Procurement** - specify for recycled content, and sustainable and local sources;
- **Operational waste** - collect and recycle waste materials;
- **Construction waste** - minimize waste and reuse spoil materials;
- **Material volumes** - design to minimize material volumes and minimize applied finishes; and
- **Durability** - design to last incorporating life-cycle costing.

Water

- **Efficiency** - reduce water use through efficient appliances, fixtures, and fittings;
- **Monitoring** - sub-metering and real-time monitoring; and
- **Capture** - rain water collection and gray water systems.

Accessibility

The Americans with Disabilities Act (ADA) assigns responsibility of public sector station owners and/or passenger rail operators (Amtrak or commuter rail agencies) based on percent of ownership. (See Subpart II, Sec.12161 of the ADA.)

The USDOT regulations also provide detailed direction on what constitutes compliance. For example, the regulations dictate the height of ticket counters, type of signage, width of doorways, relative height and setback of rail platforms, and provide direction on how mobility-impaired passengers are to be accommodated in the boarding of trains.

For projects with significant accessibility issues, it is suggested that designers conduct outreach and seek the input of groups that represent people with disabilities and understand their environmental needs.

7.7 Accessibility

In the transit environment barrier-free design is of particular importance, and encompasses persons with disabilities of all kinds, including those who are non-ambulatory, those with difficulty walking, older people, the visually or hearing impaired, children, pregnant women, and those temporarily restricted due to illness or injury. The great advantage of universal barrier-free design in transit stations is that it aids all travelers, removes restrictions on circulation, and reduces injuries to station users. For these reasons, Amtrak places particular emphasis on barrier-free universal design in its stations.

Universal design considerations must be fully integrated throughout the design process. These design considerations include all of the routine requirements of applicable codes, including accessible routes, waiting areas, ticket counters, restrooms, and other amenities. In designing the station, it is important to carefully consider the particular circumstances of travelers with disabilities, including:

- People with disabilities may be traveling alone, with a companion, or with family; they may be parents with small children or parents that have a child with a disability;
- People with disabilities may be drivers or passengers: they may need to drop off a bag and then park a car; the driver may need to drop off a person with limited mobility and then park a car;
- Exiting for people with disabilities in case of emergency requires careful analysis: areas of evacuation assistance and two-way communications, with both visible and audible signals, should be provided; and
- The business traveler might be disabled, and business traveler services, if provided at the station, should be provided equally to persons with disabilities.

The Americans with Disabilities Act (ADA) of 1990, extends civil rights protections to all individuals with disabilities. The ADA prohibits discrimination on the basis of disability in employment and in public services (including public transportation and public accommodations). Section 12162(e) of the ADA requires that intercity rail stations be made accessible to persons with disabilities. This does not apply to flag stops at which Amtrak stops only on passenger request. For purposes of the ADA, a station generally consists of property used by the general public and related to the provision of rail transportation, including passenger platforms, designated waiting areas, ticketing areas, and restrooms.

Following the passage of the ADA, the U. S. Department of Transportation developed regulations setting forth requirements for the accessibility of transportation vehicles (including rail cars), as well as for the accessibility of stations. The Access Board is an independent federal agency devoted to accessibility for people with disabilities, created in 1973 to ensure access to federally funded facilities. The board has issued guidelines indicating how buildings, facilities, and transportation vehicles can be made accessible. Federal Department of Transportation (DOT) regulations pertaining to stations have been amended over the years to incorporate Access Board guidelines. These regulations can be found in Code of Federal Regulations Title 49 (49 CFR) parts 37 and 38.

8. Platform

8.1 Introduction

Serving as the interface between the train and the station, the platform is an important design element, and while the platform might at first seem to be a relatively simple project component, it should be recognized that platforms and platform access can present significant design issues, and represent a substantial percentage of a project's costs. As Amtrak's passenger services grow, the design of the platform has become more critical to the success of these rail services. The speed and safety at which passengers can move on and off the trains and the platform are determined by the platform dimensions, vertical circulation, and design details.

Platform Design Process

The guidelines presented here provide necessary information for initial platform planning and design. Amtrak can provide more detailed engineering standards for railroad roadway sections and clearances as development of the project design progresses.

The platform design must take into account specific Amtrak requirements, Federal Railroad Administration requirements, and if the platform is not on an Amtrak-owned right-of-way the requirements of the host railroad. Review procedures include:

- Review initial planning and design criteria and assumptions with Amtrak;
- Amtrak Engineering will review the plans and specifications for new or renovated platforms to verify compliance with Amtrak's technical standards, which are consistent with American Railway Engineering and Maintenance-of-Way Association (AREMA) standards;
- For platforms served by Amtrak that are located along a host railroad, the design standards of that host railroad should normally be followed. Any inconsistencies with Amtrak's standards should be brought to the attention of Amtrak and will be reconciled by Amtrak, working with the host railroad
- Amtrak will coordinate the review of plans, when necessary, with the FRA or other DOT agency in accordance with the provisions of any Amtrak-FRA grant agreement and will inform the entity designing the platform of the feedback from any agency consulted.

Coordinating the review of projects for ADA compliance can be complicated. Grant agreements between the FRA and Amtrak require that for stations where Amtrak is the "responsible party" under the ADA, Amtrak must submit to the FRA, for its review and comment, copies of relevant plans and specifications for those projects which do not include full platform length level boarding. For stations where Amtrak is not the "responsible party" under the ADA, but has been asked to review plans for a project that does not provide for full platform length level boarding, Amtrak must advise the FRA of its review of such plans prior to providing final comments to the requesting entity.

The U.S. Department of Transportation "Level Boarding Final Rule," issued on September 9, 2011, requires passenger railroads to ensure, at new and altered station platforms, that passengers with disabilities can board and alight any passenger rail car of the train. Where level-entry boarding cannot be provided due to freight-clearance requirements or mixed equipment, the passenger railroad operator must submit to the FRA or FTA a narrative that shows how they intend to meet the performance standard. Amtrak will submit narratives on the behalf of external project sponsors designing and constructing platforms.

Several factors directly affect station platform design, including:

- Train service type and frequency;
- Passenger train length;
- Passenger car floor height;
- Passenger volume;
- Availability of checked baggage service;
- Presence of freight operations;
- Number of trains and platforms;
- Site constraints;
- ADA Requirements; and
- Operational needs, such as access for equipment inspections.

Introduction

Requirements for level boarding are a significant design consideration. Please refer to the USDOT, Federal Railroad Administration website for important details and further guidance.

8. Platform

Design Considerations

Design Considerations
Each station platform is considered individually in the context of these factors.

Design elements include, but are not limited to the following:

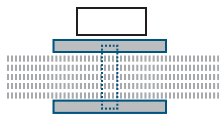
- Length required for train consists;
- Travel distance to exit and exit capacity to remove passengers from platform;
- Platform width for capacity, clearance at vertical circulation elements and baggage equipment turnaround;
- Platform slope away from tracks;
- Separate service/baggage areas including access for heavy service vehicles at some stations;
- Weather protection by canopy, wind breaks or shelter;
- Signage and PIDS;
- Recycling and trash receptacles; and
- Seating.

8.2 Platform Types

Amtrak stations utilize side or island platforms, with infrequent use of service platforms. Characteristics of the platform types are as follows:

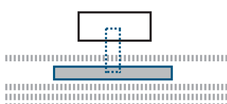
Side Platform

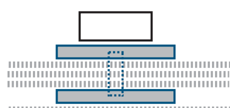
The side platform consists of either one platform alongside a single track or two separate platforms with tracks running between them. The basic station design used for a two-track railway line has two side platforms, one for each direction of travel. An advantage to the side platform is that the tracks can run straight and do not have to diverge outward as required for a center platform. However, where there is high frequency service, high speed rail, or high-level platforms, the two side platforms must be connected by an overhead pedestrian bridge or tunnel. The side platform is well-suited to Long Distance service, providing a convenient arrangement for baggage operations when adjacent to the station building.



Island Platform

The island platform consists of a platform located between two tracks passing on either side. Stations with three or more tracks require at least one island platform. While it is wider than the single side platform, the island platform requires less overall area than two side platforms. By allowing escalators and elevators to be shared between both tracks rather than being duplicated or present on only one side, the island platform reduces the overall number of required escalators and elevators and/or ramps required for vertical circulation.





Island platforms are well-suited to commuter or corridor lines, where passengers tend to use trains in one direction in the morning and the other direction in the evening. With two side platforms, one platform becomes crowded while the other is deserted. An island platform prevents this as the same large platform is used for trains in both ways. The use of island platforms is also well-suited to a track configuration in a cut or raised on an embankment, as this makes it easier to provide access to the platform through a single movement of vertical circulation from an at-grade station building, without walking across the tracks.

However, while island platforms offer advantages in shared vertical circulation and boarding space, they also require extra width along the right-of-way as the tracks have to spread out on approach to the station to accommodate the width of the center platform.

Service Platform

A third platform type providing service functions only is also sometimes used, but is infrequent and not a predominant factor in station planning. Where operationally feasible service platforms may be provided between tracks, so that passengers do not have to share space with baggage carts and other service vehicles. In addition, a few stations require a low, 8-inch above top of rail platform to permit vehicle passage.

Platform Types

- Side Platform;
- Island Platform; and
- Service Platform.

8. Platform

Platform-Track Relationships

Relationship to station

Exits

Tracks diverge around platforms

8.3 Platform-Track Relationships

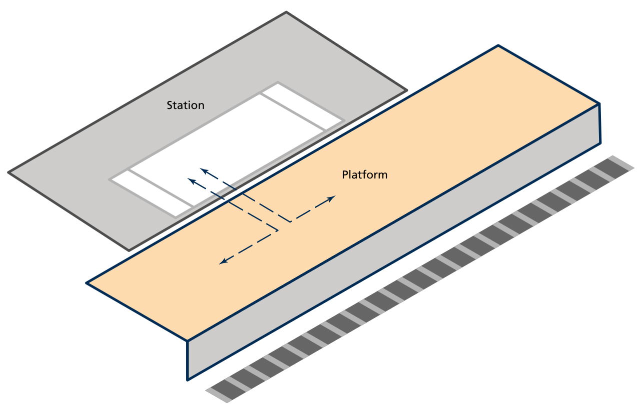
There are fundamentally four different types of platform/track relationships.

- One Side Platform - one or more tracks;
- Two Side Platforms - Two or more tracks;
- One or More Island Platforms - two or more tracks; and
- Side and/or Island Platforms in Terminal Configuration - multiple tracks.

These different relationships correspond in varying degrees with the four station categories:

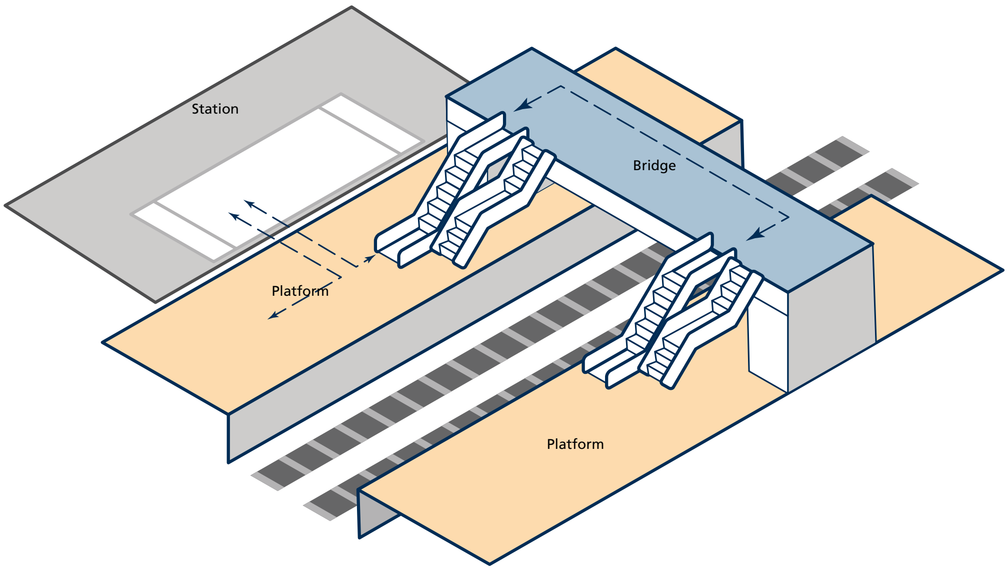
	Large	Medium	Caretaker	Unstaffed
One Side Platform		●	●	●
Two Side Platform	●	●	○ 1	○ 1
Island Platform	●	●	○ 1	
Terminals	●	●	○ 2	

Separations of pedestrians from active tracks via overhead bridge or undergrade tunnel is always preferable; depending upon platform/track relationship, station size, passenger volume and real traffic frequency, they may be required.



One Side platform

8. Platform



Two Side platform

8.4 Connection to the station

Side Configuration

Category 1 stations must generally plan for connections to multiple platforms, requiring a tunnel or pedestrian bridge, or locating the station directly above or below the tracks. This can also be true for Category 2 stations located along HSR or busy commuter corridors with a center platform or two side platforms.

An important consideration in platform planning and design is the fact that a significant number of Amtrak-served stations lie along designated HSR corridors. To prepare for HSR service, platforms must be designed with overhead or below-grade access that does not require the passenger to cross tracks at grade. For HSR service, a configuration utilizing a pair of island platforms allows local or corridor service to utilize one platform and HSR to utilize a second, independent platform. Where HSR service bypasses a station it cannot run at very high speeds adjacent to populated platforms. Independent island platforms allow slower trains to diverge from the main line, with the main line tracks remaining straight. High speed trains can therefore pass right through the station, while slow trains pass around the platforms. This arrangement also allows the station to serve as a point where slow trains can be passed by faster trains.

Where vertical circulation to the platform is required, the location of the discharge is preferred in the center third of the platform, rather than at an end. The distance between platform exits is governed by NFPA 130 *Standard for Fixed Guideway Transit and Passenger Rail System.*

Platform Bridges and Tunnels

Connections from the station building to the platforms often require vertical circulation, especially where multiple platforms and/or island platforms are utilized. These connections can be accomplished by placing the station itself above or below the tracks and platforms, or by overhead pedestrian bridges or pedestrian tunnels from the station to the platforms.

The use of tunnels versus platform bridges needs to be carefully considered. New double-stack freight cars require 26 feet of vertical clearance, so tunnels can potentially require less height for ramps (ramping up and down one story for a tunnel instead of up and down three stories for a bridge), and possibly eliminate the need for elevators. However, pedestrian tunnels should be carefully considered and designed to avoid being claustrophobic, damp, or appearing unsafe due to lack of visibility from public areas.

Connection to the Station

Side Configuration

Connection issues include passenger flows, security screening, baggage handling, service types, and control and access of Amtrak staff

Plan for a second platform bridge if HSR is present to allow separation of arrivals and departures relative to passenger flows and security screening—or provide a separate HSR concourse and commuter/LD/corridor concourse

Tunnel versus platform bridge can be dependent on topography, freight clearances, and platform heights—a section issue/see sketches

Plan for service growth and provision of a bridge or tunnel pedestrian connection to the platforms in the future

Where platform access bridges and tunnels connect both sides of the tracks, consider incorporating a pedestrian and bicycle passageway to improve general circulation around the station and throughout the surrounding community.

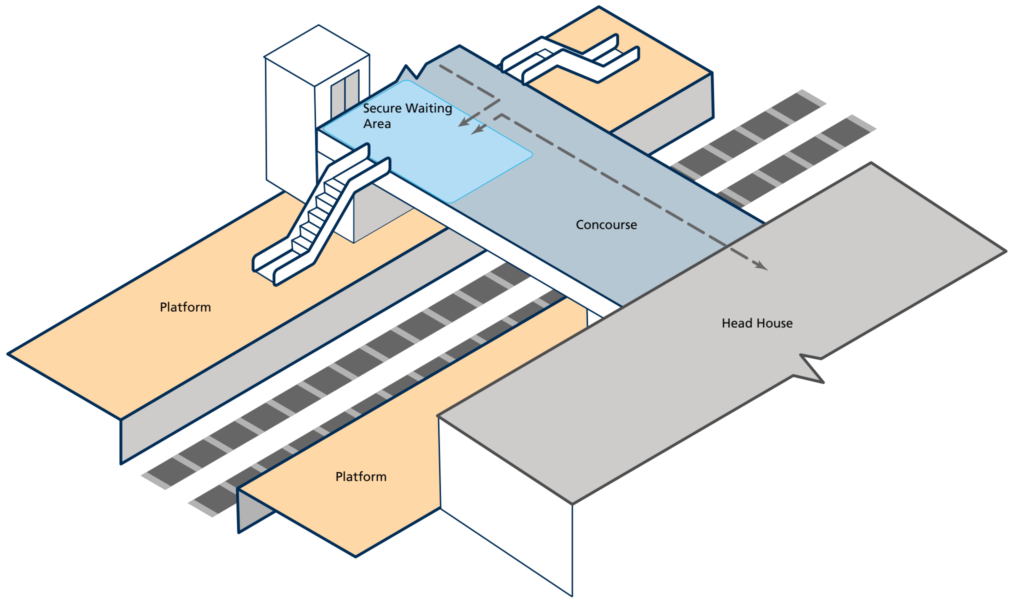
8. Platform

Connection to the Station

Vertical Configuration

Baggage typically hand delivered on floats

Possible provision of separate service elevators



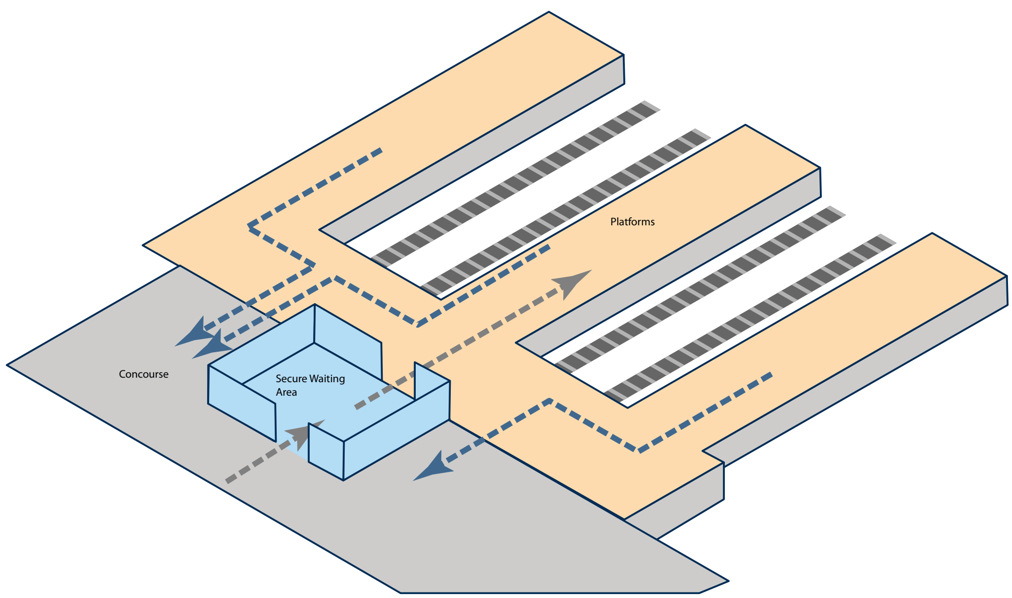
Vertical Configuration

Terminal Configuration

Crossover of arriving and departing passengers can be a problem.

At Category 1 stations there is a need to separate arriving/departing passengers vertically to eliminate the crossover.

This configuration often creates a service/passenger conflict as both passengers and service vehicles often use the head end of the tracks.



Terminal Configuration

8. Platform

8.5 Platform Length

Platform length, width, and height are critical planning dimensions that are derived from the service types and equipment that serve the station. It is important to think of platform design and planning systematically. For example, a station platform that serves HSR should be consistent with platforms at other stations that serve the same train, as the equipment and consist will remain constant from station to station.

All platforms should accommodate the full length of a typical train consist and allow for maximum flexibility. While the minimum required platform length will vary depending on the type of rail service provided, platform lengths should be as standardized as possible, both within the individual station, and across multiple stations serving a corridor.

Platform lengths on the Northeast Corridor are driven by the frequency of service and service types provided by both Amtrak and commuter services. Amtrak has identified preferred and minimum platform lengths, as identified in the following table:

Service Type	Preferred - All Locations	Minimum - Off NEC	Minimum - NEC
Acela Express [1]	700'	N/A	550'
Northeast Regional	1000'	425'	850'
State Corridor	700'	300'	700'
Long Distance	1200'	550'	850'

1 Platform lengths for High Speed Rail services will be modified to accomodate full length level boarding for lengthened Acela Expess and new HSR fleets.

The minimum platform length of 300 feet should only be utilized at stations with low ridership and short trains of four or fewer passenger coaches. Amtrak may consider less than full length boarding platforms based on individual conditions, and will make a determination on platform length after consultation with stakeholders.

The required platform length for Long Distance trains is derived from a need to eliminate double-stopping, providing access to and from all car types in the train consist. Platform lengths for Long Distance service should not be minimized, unless specific site constraints prohibit length or the combination of on-board and station staffing preclude safe boardings and alightings at all train consist doors.

New and modified platforms that do not provide full-length level boarding from all cars must have FRA or FTA approval of how performance standards will be met.

Platform Length

Where there are multiple platforms provide flexibility to accommodate different services

Level boarding requires straight (tangent) platforms to achieve the minimum gap between platform edge and the car deck—so the platform lengths specified here assume absolute straight alignment

Length and height are related to equipment, while width is typically related to capacity or passenger volume

If the preferred platform length is not initially accommodated or built, plan the station location and track layout to allow for future extension of the platform to a greater length without requiring reconfiguration of the building or platform

8. Platform

Platform Width

Island versus side platform

Vertical circulation access

One train at a time or two at island platforms

8.6 Platform Width

The determination of platform width is a balance between accommodating the peak passenger load and the physical constraints. In other words, wider platforms will generally be preferred over narrower ones as being safer, better able to handle service baggage vehicles, and able to provide for growth in passenger volume.

Platform	Preferred Width	Minimum Width	Live loading
Center Island	24′	20′	250 psf
Side w/Baggage Loadings	15′	12′	250 psf
Side w/Passenger Service Only	12′	10′	150 psf

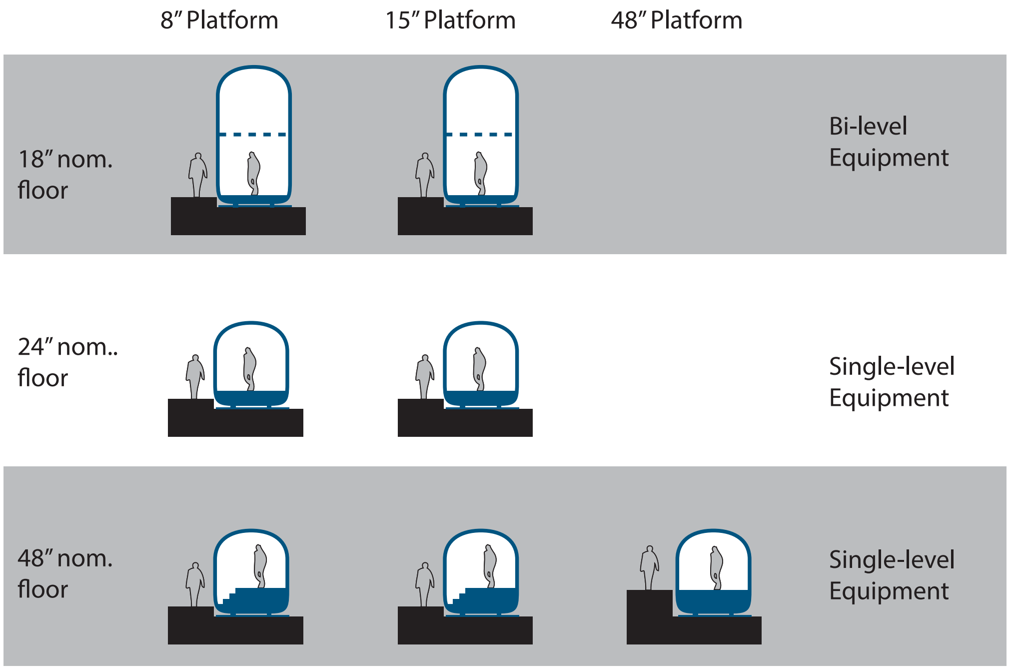
When 12 foot wide platforms are used with full baggage service, turnarounds for equipment need to be provided at the platform ends.

8. Platform

8.7 Platform Height

To the greatest extent possible, platform heights should provide level boarding, which not only supports compliance with accessibility requirements, but is also safer, more convenient, and moves passengers on and off trains more quickly, an important factor in reducing dwell times and speeding service. Level boarding platforms tend to reduce injuries due to the elimination of the steps that are required for boarding at low-level platforms. Level boarding platforms are considered essential for HSR stations for efficient performance.

Amtrak operates equipment with three different floor heights, as illustrated below. East coast services are based on high floor equipment, while the rest of the country is planned for low floor equipment, due to existing routes and equipment types, or the use of freight rights of way. Over time, it is likely that level boarding standards will be significantly enhanced through improvements to the fleet, with ramps, lifts, or extensions operating from the rail car, rather than manual lift equipment being provided at the platform.



When determining the platform height during design, there are three primary considerations: the floor height of the passenger trains that use or will use the station; whether or not freight trains operate or will operate on the track adjacent to the platform; and, federal accessibility regulations.

Passenger Train Floor Height

Depending on which type of Amtrak equipment is used, or will be used, at a station, platform height is preferred to be either 48 inches or 15 inches above the top of rail (ATR) to be consistent with the floor height within the train. Talgo equipment, as presently used on the Cascades service, has a 24 inch floor height, but are equipped with a carborne wheelchair lift, permitting use of a 15 inch ATR platform to effectively achieve level boarding. In some instances, passenger trains with different floor heights may use a station; in these cases, the platform design may combine two segments of different heights.

Freight Train Clearances

If freight trains use the track adjacent to the platform, level boarding is only feasible if excessive dimension freight cars (i.e., "high and wide") are prohibited. If such cars are permitted, the platform would interfere with clearances required for safe passage of these reight cars. In these cases, a maximum platform height of 8 inches ATR is typically used, with portable wheelchair lifts, setback (mini-high) platforms and other means permitted to be employed in lieu of level boarding for accessibility purposes.

Platform Height

Standard platform heights include 8, 15 and 48 inches above the top of rail (ATR). Passenger car type, freight train operations, and federal accessibility regulations largely determine which height is applicable to a particular station.

Category 1 and 2 stations can serve multiple equipment types, and can often require separate platforms of 15 inch and 48 inch ATR to serve the different floor heights of different equipment

Additional Dimensions and Clearances

Canopies and canopy-mounted signage

Platform clearances dictate that canopies are not flush with platform edges, and host railroads may require significant setbacks. Canopy height should take into account the platform signage systems and other overhead elements such as CCTV. Amtrak recommends that a canopy length be considered for a minimum of two-thirds the length of the platform, centered on the primary entrance point.

PIDS

Where PIDS is installed, information displays must be visible in all weather conditions as some electronic displays are difficult to seen in bright sunlight.

Federal Accessibility Regulations

Federal regulations require level boarding wherever it would not be prevented by freight train clearance requirements. This requirement applies to new platform construction and reconstruction of existing platforms.

The U.S. Department of Transportation "Level Boarding Final Rule," issued on September 9, 2011, requires passenger railroads to ensure, at new and altered station platforms, that passengers with disabilities can board and alight any passenger rail car of the train. Where level-entry boarding cannot be provided due to freight-clearance requirements or mixed equipment, the passenger railroad operator must submit to the FRA or FTA a narrative that shows how they intend to meet the performance standard. Amtrak will submit narratives on the behalf of external project sponsors designing and constructing platforms.

8.8 Additional Dimensions and Clearances

Platform Offset

Amtrak's standard offset for 15 and 48 inch ATR platforms is 5'7" from the centerline of the track.

Amtrak's standard offset for 8 inch platforms is 5'1" from the centerline of the track, although other offset dimensions, determined by host railroads and states, may also be required for 8 inch platforms.

Curved Platforms

The preferred type of platform is one that is straight and parallel with the tracks, which is referred to as a "tangent." When this is not feasible, a curved platform is allowed in accordance with Amtrak Standard Track Plan *Minimum Roadway Clearances*. Note, however, that most host railroads will only permit new platforms on tangent track.

Slope

Slope along the length of a platform, and cross-slope should be minimized. A platform that is level along its length is Amtrak's preferred standard, although site conditions can require some slope, such as to maintain consistent height relative to the track. Platforms should slope away from the tracks to prevent wheelchairs, strollers, baggage carts and other items from rolling towards the train or onto the right-of-way in front of an oncoming train. Thus, center platforms will slope to the middle of the structure, and require internal drainage.

Clearances

The minimum distance from the edge of the platform to a wall or other obstruction on a platform is six feet.

Sacrificial Edges

At 48 inches and 15 inches ATR platforms, a sacrificial edge shall be applied, consisting of two layers of 3" x 10" boards and effectively increasing the platform width by 5".

8.9 Safety and Security

Safety and Security

Exiting and Other Code Requirements

Providing code-required exits from a platform is a significant design consideration, especially from center platforms that require an overhead or tunnel escape route in order not to exit across live tracks (Reference Amtrak Standard Design Practices and National Fire Protection Association 130: Standard for Fixed Guideway Transit and Passenger Rail Systems, for more information.)

Lighting

Platform lighting is an important safety and security concern. Lighting levels must meet the values set forth in Amtrak *Engineering Stations Standard Design Practices.*

Emergency Call Boxes

Due to infrequent usage and high cost, Amtrak no longer requires the installation of public pay phones at stations. However, at a minimum for passenger safety and security, Amtrak requires one emergency call box with a direct connection to Amtrak or local emergency providers, depending on station location. These should be located on the platform or immediately adjacent to the platform. Call boxes should be easily accessible from both ends of the platform. Installation of an emergency call box may reduce the need to install a public pay telephone.

Track Crossings

The preferred method for customers to cross the tracks is via a bridge or tunnel for safety reasons. However, when this is not feasible, an ADA compliant, at-grade track crossing may be permitted. The preferred location for such crossings is adjacent to and as part of a highway grade crossing. Where a pedestrian crossing must be located remote from a highway crossing, host railroads require an active warning system (similar to road crossings) should be installed to warn pedestrians of oncoming trains.

Inter-track and Platform Fencing

Where clearances allow, inter-track fencing is to be installed to prohibit unsafe crossing of track areas at a station. Access to the platforms should be controlled using fencing or other means.

Emergency Responders and Emergency Vehicles

Wherever possible, platform design should permit emergency responders and emergency vehicles to reach platforms directly. If direct vehicle access is not feasible, access to a location in immediate proximity combined with unimpeded on foot and for a wheeled ambulance stretcher or gurney may suffice.

8. Platform

Accessibility

Tactile Warning Edges

Setback Platforms

Wheelchair Lifts

Bridge Plates

8.10 Accessibility

Amtrak's access guidelines for platform design are based on two sets of considerations: 1) the statutory provisions and current regulations promulgated under the ADA, and 2) the best engineering practices of track and platform design at railroad stations, to the extent consistent with the ADA.

The Americans with Disabilities Act statutory requirements found at 42 US Code 12162 (e) and the U.S. Department of Transportation's regulations found at 49 CFR Parts 37 and 38 (as updated in September 2011) require that all Amtrak-served stations within the United States (other than flag stops) must be made accessible to passengers with disabilities. Current U.S. Department of Transportation (US DOT) regulations require full-length, level-boarding platforms in new and substantially reconstructed commuter and Amtrak stations and do not permit the use of alternative methods except where full-length, level boarding is "infeasible", such as due to freight train operations on the track adjacent to the platform. The ADA and implementing regulations generally provide as follows:

- Platforms must be "readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs";
- At stations with raised platforms, there may be a gap of no more than 3 inches horizontal and 5/8 inch vertical between the platform edge and the entrance to the rail car (recognizing, however, that it is very unlikely that commuter and intercity rail operators can meet this requirement);
- Where it is not operationally or structurally feasible to meet the gap requirements, assistive boarding devices such as ramps or bridge plates, or car-borne or platform-mounted lifts are a permissible means to accommodate passengers with disabilities; and
- FRA approval of design documents is required where full-length level boarding is not provided.

Tactile Warning Edges

Platform edges must have a detectable warning (also known as truncated domes or tactile edging), consistent with ADA requirements, which shall contrast visually with adjacent surfaces, be 24 inches wide, and run the full length of the public use areas of the platform. Amtrak's standard color requirement is federal yellow, materials alternatives include precast concrete, ceramic, porcelain, or plastic tiles. It is important that the tiles are modular pieces, not poured-in-place or large strips, because of repair issues. Additional details, including standard detail drawings, are provided in the Amtrak Standard Design Practices.

Setback Platforms

Where host railroads freight usage of adjacent track will not permit 15- or 48-inch ATR platforms, setback (mini-high) platforms may be used along with a means to span the gap between the car and platform. Currently, bridge plates deployed by an on-board or station personnel are used to span the gap. Amtrak is developing solutions to eliminate or mitigate the gap and will incorporate such in future versions of these guidelines.

Wheelchair Lifts

At low-level platforms without level boarding, Amtrak utilizes portable wheelchair lifts supplied by Adaptive Engineering, Inc. to provide ADA access. The wheelchair lift should be kept on or very near the platform, where it can be retrieved by the conductor and taken to the rail car. The lift is manually operated and does not require any batteries or power. Amtrak recommends that the lift be kept in an enclosed protective shed, which is accessible to the train crew when needed. Although recognized as an acceptable alternative means of providing access, Amtrak policy, adopted in May of 2012, is to not use mobile lifts at stations with an annual total ridership greater than 7,500 ons and offs.

Bridge Plates

Bridge plates allow passengers in wheelchairs to pass over the gap between the platform edge and passenger rail car threshold.

8.11 Snow Melting Systems

Amtrak has installed a limited number of snow melting systems at stations in colder climates, as a means by which to assure safe snow and ice removal without incurring costs of recently mandated watchman or flagman protection during manual snow removal procedures. Such systems include two very different designs; hydronic, in which hot liquid is circulated in pipes within the platform, and electric resistance systems, in which heating wires are embedded in the platform. Amtrak is still conducting research on the economics of these two technologies and the conditions under which installation of such systems is justified. For station projects proceeding in the near term, Amtrak has developed a decision tool to guide its consideration of the applicability of such systems to a given stations. Until a formal policy is developed, Amtrak will evaluate the possible incorporation of such systems into designs for new or reconstructed platforms on a case-by-case basis.

Stations where heated platforms have been installed include the following:

Leavenworth, Washington – Construction of the "Icicle Station" at Leavenworth (so named because "Icicle" is the original name of the town) was completed and service initiated on September 25, 2009. The station is served once daily in each direction by the Seattle Section of Amtrak's Empire Builder. The project was sponsored by the City of Leavenworth. The platform incorporates an electric reistsance heating system.

Chemult, Oregon – Construction on the new station at Chemult was completed in October, 2010, and the station opened for revenue service on November 10, 2010. Bids for construction had been solicited in March 2010. The station is served once daily in each direction by Amtrak's Coast Starlight. The project was sponsored by Amtrak, and incorporation of resistance heating in the platform was included in the design by Amtrak as a research and development initiative.

Essex, Montana – The new station platform at Essex was placed into revenue service on November 5, 2010. The station is served once daily in each direction by Amtrak's Empire Builder. The platform incorporates a hydronic system that utilizes natural gas heat. The project was sponsored by Amtrak, and incorporation of hydronic heating in the platform was included in the design by Amtrak as a research and development initiative.

Saco, Maine – The platform and parking area at Saco were constructed in 2001 and 2002; the station building was added in 2008 and 2009, opening for service on February 9, 2009. The station is served five times daily in each direction by Amtrak's *Downeaster* service. The project was sponsored by the City of Saco. The platform heating system is hydronic, circulating glycol heated by a propane furnace. The station building uses geothermal energy for climate control, but the station and platform systems are completely separate.

Whitefish, Montana – The platform at Whitefish was reconstructed during the Summer of 2011. The station is served once daily in each direction by the *Empire Builder*. The platform is equipped with an electric resistance heating system as an Amtrak-sponsored research and development initiative.

Contacts List and Resources

Contact List

Government Affairs

Great American Stations Project

Amtrak Manuals and Guidelines

Appendix A

A.1 Contact List

Mary D. Montgomery, A.I.A.
Project Director, Stations Planning
Real Estate
Washington Union Station
60 Massachusetts Avenue NE, 2W-105
Washington, DC 20002
(202) 906-2119
montgom@amtrak.com

Ryan Morson
Project Manager, Stations Planning
Real Estate
30th Street Station
2955 Market Street, 5S-202
Philadelphia, PA 19104
(215) 349-1049
ryan.morson@amtrak.com

John Bender
Project Manager, Stations Planning
Real Estate
Washington Union Station
60 Massachusetts Avenue NE, 2W-107
Washington, DC 20002
(202) 906-3515
john.bender@amtrak.com

A.2 Additional Support

Real Estate:

Anish Kumar, AIA, AICP, PP
Senior Director, Facilities Planning
Real Estate
30th Street Station, 5S-57
2955 Market Street
Philadelphia, PA 19104
(215) 349-2107
anish.kumar@amtrak.com

Engineering:

Michael Ensminger, P.E.
Senior Director, Stations
Engineering
30th Street Station, Mailbox #55
2955 Market Street
Philadelphia, PA 19104
(215) 349-3294
ensminm@amtrak.com

Government Affairs:

Gary L. Talbot
Program Director, ADA
Government Affairs
30th Street Station, Mailbox #55
2955 Market Street
Philadelphia, PA 19104
(215) 349-3610
Gary.Talbot@amtrak.com

Bill Hollister (governmentaffairsnyc@amtrak.com) — **Northeast:** Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Quebec, Rhode Island, Vermont

Todd Stennis (governmentaffairsnol@amtrak.com) — **South:** Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia

Derrick James (governmentaffairschi@amtrak.com) — **Midwest:** Arkansas, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin, Wyoming

Rob Eaton (governmentaffairsoak@amtrak.com) — **Northwest:** British Columbia, California, Colorado, Idaho, Montana, Oregon, Utah, Washington

Jonathan Hutchison (hutchij@amtrak.com) — **Southwest:** Arizona, California, Nevada, New Mexico

A.3 Great American Stations Project

GreatAmericanStations.com
GreatAmericanStations@amtrak.com

A.4 Amtrak Manuals, Guidelines and Other Resources

Amtrak Graphic Signage Standards Manual

Amtrak Corporate Security Standard Design Practices

Amtrak Environmental Engineering Guidance and Policy

Amtrak Information Technology Premises Distribution Standards

Amtrak State Fact Sheets;

http://www.amtrak.com/servlet/ContentServer?c=Page&pagename=am%2FLayout&cid=1246041980432

A.5 External Resources

National Historic Preservation Act of 1966 (NHPA)

NFPA 130: Standard for Fixed Guideway Transit and Passenger Rail Systems, 2010 Edition

Code of Federal Regulations (CFR) Title 49 Part 37 Transportation Services for Individuals with Disabilities (ADA)

Americans with Disabilities Act (ADA) of 1990

U.S. Department of Transportation, "ADA Standards for Transportation Facilities"

U.S. Department of Justice, "2010 ADA Standards for Accessible Design"

U.S. Department of Justice, "Guidance on the 2010 ADA Standards for Accessible Design"

U.S. Department of Transportation, "Level Boarding Final Rule"

U.S. Department of Transportation, "Station Area Planning for High-Speed and Intercity Passenger Rail"

Appendix B

Parking Capacity

Amtrak commissioned a research study to develop a methodology for calculating parking requirements at Amtrak station in 2008. Market studies were compiled to identify the various modes of access to and from stations, used for each type of rail service.

The basic calculation for determining parking capacity is a product of private vehicle originating, departing and returning passengers divided by two. However, other factors, such as rail service type, station category, average percentage parking, average duration days and average group size have an influence on parking.

As factors influencing parking demand include gas prices, car pooling, access to transit, bicycle use and transit-oriented development, the ratios developed by the 2008 study must be reevaluated. Amtrak can provide guidance based on the study and current parking use at similar stations for current and future demand.

Parking capacities at new stations must accommodate projected volume for at least a twenty-year timeline. Projected volume is to be based upon forecast for usage developed in collaboration with Amtrak's Market Research Department. Ridership can be severely impacted by the lack of adequate parking. The overall design and arrangement of parking areas includes entrances and exits, parking spaces, circulation and the relationship of parking areas to the station, platforms, and local streets.

Parking for drivers and passengers with disabilities must comply with the Americans with Disabilities Act. Passengers with disabilities should not be required to cross traffic lanes. The requisite number of ADA compliant spaces is outlined in the Americans with Disabilities Act Accessibility Guidelines (ADAAG).

Parking types may include long-term, short-term, pick-up/drop-off, taxi and, where feasible, employee accommodations. (Free employee parking is not guaranteed at any location and should be evaluated based upon revenue opportunities for the location.) Parking for commuter service and Amtrak service should be separated, when possible, and accommodate adequate spaces for both types of services. Commuter parking raises specific difficulties within Amtrak's systems, as commuters arrive early in the morning, creating situations where parking may not be available for later Amtrak departures.

Due to the likelihood of passengers carrying baggage, Amtrak spaces should be located closest to the station. In addition, short-term and long-term parking should be separated, with long-term parking located further from the station. Fee systems must promote smooth entry into the facility and avoid back-ups to adjacent approach routes. Consultation with parking operators early in the project design can reduce the chance of redesign efforts later in the project.

For planning purposes:

- Standard 90-degree, 9' x 19' parking stalls should be used for both long and short-term parking;
- Parking structures (garage column spacing) should be arranged to provide clearance of aisles for easy vehicle maneuvering;
- Structured parking should allow for an average of 350 - 400 square feet of gross floor area;
- Surface parking averages 330 - 350 square feet of surface area including maneuver space, circulation space and access and parking control; and
- Standard guidelines for parking garage design should be utilized.

Surface Parking — Nine-Foot Stalls — 90° Parking

		Long Term	Short Term
Bay Width			
	Desired	64'	66'
	Minimum	60'	61'
Aisle Width			
	Desired	26'	28'
	Minimum	24'	25'
Stall Length			
	Desired	19'	19'
	Minimum	18'	18'

Surface Parking — Nine-Foot Stalls — 60° Parking

		Long Term	Short Term
Bay Width			
	Desired	59'	60'
	Minimum	59.6'	57.6'
Aisle Width			
	Desired	19'	20'
	Minimum	17'	18'
Stall Length			
	Desired	20'	20'
	Minimum	19.8'	19.8'

Appendix C

Station Waiting Room Capacity

Generally during the programming process, formulas for peak passenger counts are used to determine waiting area capacities. The busiest travel days, such as Thanksgiving, are not to be used for planning purposes. The formulas for waiting capacity follow:

Daily ridership is not calculated by strictly dividing by the number of days in a year. Taking into account that each location tends to have certain days that are more traveled than others, daily ridership is calculated as follows.

Daily Ridership = Annual Ridership (Ons / Offs) / 270

This formula produces a higher number than actually occurs in many instances, but it does represent peak conditions that occur for busy periods, except Thanksgiving.

For locations with more than 6 trains peak hour traffic is calculated as follows:

Peak hour 2-way traffic = (.15) * Daily ridership

Peak hour 1-way traffic = (.65) * Peak hour 2-way traffic

For locations with fewer than 6 trains peak hour traffic is calculated as follows:

Peak hour 2-way traffic = Daily ridership / number of trains

Peak hour 1-way traffic = (.65) * Peak hour 2-way traffic

The average waiting time for typical corridor services (shorter distances to higher population centers) is only fifteen or twenty minutes, with many passengers arriving within minutes of train arrival. A long distance traveler may be likely to arrive an hour early. It should be assumed that corridor services require seating for about half of the peak-hour one-way traffic. Long distance services require seating for 75 percent of the peak-hour one-way traffic. An amount of 20 SF per seated passenger should be utilized, to allow for the comfortable passage of passengers and rolling baggage. Additional space should be provided for standing, near or adjacent to access points at a value of approximately 10 SF per passenger. This amount is in addition to the seating requirement. All waiting areas should be clear of general circulation paths, and the calculations are exclusive of any additional requirements for circulation and general station traffic. Calculation examples follow.

To provide an example of the application of these formulas, the following represents a "Station X" with 48,750 annual riders. This represents both boardings and alightings; hence each passenger is essentially counted twice, when they arrive at the station, and again when they depart, regardless of which day.

Daily Ridership at Station X = 48750 / 270 = 181 ons and offs per day

If divided by the actual number of 365 days a year, the daily ridership would only be 134 ons and offs. Therefore, it can be seen that the use of this formula accounts for numerous other factors, including heavier travel days or the addition of other waiting friends and family.

To determine peak hourly demand:

If Station X has more than six trains:

Peak-hour 2-way traffic = (.15) (181) = 27 ons and offs

Peak-hour 1-way traffic = (.65) (27) = 18 ons

Appendix C

With only two trains:

Peak-hour 2-way traffic = 181 / 2 = 91 ons and offs

Peak-hour 1-way traffic = (.65) (91) = 59 ons

To take into account uneven travel patterns, the formula assumes that more than half of the riders for a train are boarding.

To calculate the total waiting area size and seating requirements, multiply the peak one-way passenger count by the service-type factor (50% for corridor or 75% for long distance).

Using the example with more than six trains as the corridor service:

Waiting Area
= (50%) (18 people) (20 SF/ seated person)
= 180 SF + (50%) (18 people) (10 SF/ standing person)
= 90 SF

Total Waiting Area
= 180 SF + 90 SF
= 270 SF, with 9 seats (round up to 10, add 20 SF)

However, using the example with two trains as the long distance service:

Waiting Area
= (75%) (59 people) (20 SF/ seated person)
= 885 SF + (25%) (59 people) (10 SF/ standing person)
= 148 SF

Total Waiting Area
= 885 SF + 148 SF
= 1033 SF, with 44 seats (round up to 45, add 20 SF)

Appendix D

Ticketing

This section is under review. Contact Amtrak Station Development for current information.

Appendix E

General Storefront Criteria

While it may not always be in the purview of the project, the following offers some areas for consideration. In addition, the Amtrak Real Estate department should be consulted to determine if criteria is in place at Amtrak-owned facilities. The tenant may be expected to install a storefront that is 100 percent open, glass with a rolling grille, glass with a door, solid or some combination of solid, glass and open. Materials should be high end and durable for all tenants, including fast-food style services. In addition, counter location, location of the point of sale (POS) and queuing must be addressed in order to limit congestion.

E.9 Retail Services

A vital aspect of many station programs, the retail services offered should not interfere with general circulation or obstruct views to and from major station facilities. Typical services include food, beverage and vending, coffee shops, newsstands, gift shops and kiosks. The number of shops should be based upon projected market demand and travel type.

Standards for tenants should include design criteria to maintain an aesthetic consistency to the other public areas of the station. Operational standards should not only address hours of operation to meet passenger demand, but off-hour policies for lighting, such that dark areas of the station are not created in off-peak travel times. Where appropriate, it is suggested that the concourse be designed with a tile border/transition to the tenant storefront. A tile border will allow greater flexibility in the future for new tenant storefront configurations. It also allows for the extension of concourse flooring into recessed storefront areas (such as door location) in order to provide a uniform concourse appearance.

Stations that have empty tenant spaces can make passengers feel uncomfortable or unsafe. This should be avoided by determining the proper percentage of retail, either through market research or input from Amtrak. Where retail locations are left vacant, the area should be walled with a typical construction barricade-type painted plywood wall that can display Amtrak information, local information, or display windows promoting the other retail offerings.

The use of kiosks or carts may be considered, provided that they do not interfere with passenger flow through the primary functional areas of the station. Carts and kiosks should be high-end materials that are consistent with other station components.

Other Retail-Style Amenities

Amenities such as bank ATM machines, newspaper honor boxes, vending machines, phone card machines, internet access portals and postal service machines should be located so as to not interfere with the general circulation. Security issues should be considered when locating items such as ATMs, so that they are not isolated or remote from other active areas.

Interior Finishes and Fixtures

Appendix F

Materials and Finishes

Flooring

F.10 Materials and Finishes

The station materials and finishes should support and clarify the intended spatial hierarchy and design of the station. Primary spaces should be given greater emphasis through use of featured materials that are high-quality, durable and easily maintained.

The materials and finishes in the stations' public spaces should enhance a sense of openness and visual engagement. This can be achieved through the use of extensive glazing and using primary interior materials and colors that are light in tone, to enhance a sense of openness and natural lighting.

The station environment requires high-quality materials and finishes that can withstand high-volume pedestrian traffic, luggage carts and commercial maintenance equipment. Renovations and expansions of existing buildings should preserve existing high-quality materials and elements, while at the same time creating architectural continuity with newer portions of the station. Details of Amtrak recommended materials and finishes are provided in the Amtrak standard design practices documentation.

F.11 Flooring

Materials used for flooring should be durable and seamless. Although it has a higher initial cost than some other materials, terrazzo is the preferred flooring material for waiting areas, because of its performance relative to durability and maintenance. Polished marble or granite is unacceptable due to slip factors and safety issues. The use of carpet in waiting areas is also unacceptable due to the maintenance issues. When a more intimate atmosphere is desired, this should be achieved through ceiling heights, lighting and wall surface treatments.

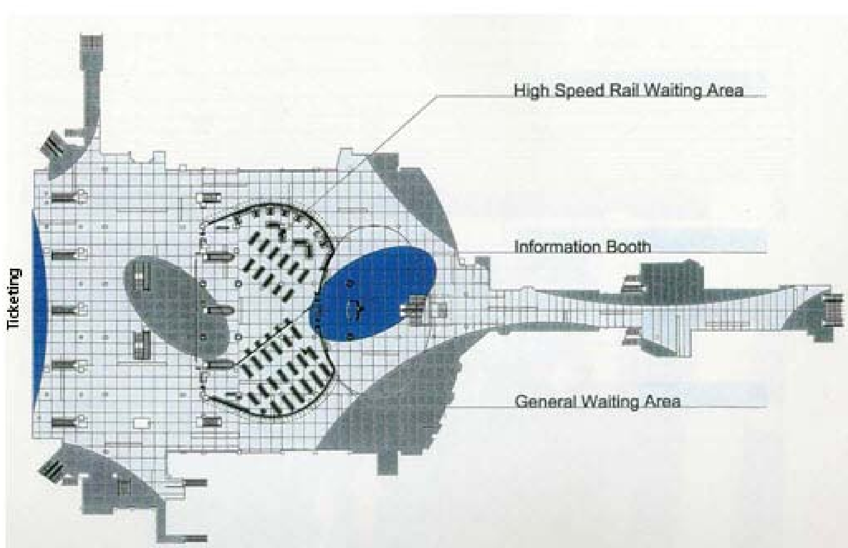
To soften the architecture of concourses and waiting areas, flowing patterns are encouraged in the floor design. This concept was recently utilized at Penn Station in New York, where the path of travel was implied through the use of multiple colors and patterns. The curved shapes also relate to the exterior liveries of the new and renovated trainsets. The light gray represents the field, the darker gray marking perimeters and entrances, and blue identifying primary passenger service locations, such as ticketing and information.

In smaller stations where the cost of terrazzo is deemed prohibitive, other seamless or roll-stock flooring should be considered. The use of tile is discouraged, due to the maintenance associated with multiple grout joints. Where tile is used, larger tiles (12" x 12" or larger) are to be used in waiting spaces to limit the number of joints. Where VCT is used, the base material and adhesive must be specified to avoid tile separations and bubbles.

The following Terrazzo color mixes were utilized at New York's Penn Station, as shown at right, to provide consistency in the brand statement:

Terrazzo Color Mixes

Color	Matrix	Aggregate
T2 Medium Gray (Field Color)	BM 1599	10% Mother of Pearl, 10% Deep Sea Blue Fribel Plastic, 80% Georgia White marble
T3 Dark Gray (Border Color)	BM 1623	10% Raven Black marble, 15% Georgia White marble, 15% Mother of Pearl
T4 Blue	BM 826	10% Raven Black marble, 10% Blue Gray Granite, 20% New Royal Gray granite, 15% Georgia White marble, 15% Deep Sea Blue



Where retail borders passenger circulation, it is suggested that the concourse be deisgned with a border transition to the tenant storefront in the floor. A border will allow greater flexibility in the future for new tenant configurations, as concourse flooring can be extended into recessed storefront areas, such as a door location, in order to provide a uniform concourse appearance.

F.12 Glass

Where glass is utilized in waiting areas at grade, scratch and impact resistanct safety glazing should be considered to prevent damage from vandalism.

F.13 Restroom Materials and Finishes

Simple and neutral color schemes should be used in restrooms and other secondary spaces: reserve more important uses of color for the main waiting area. Color, pattern and finish of the wall tile should maximize a clean-looking, well-lighted appearance. Use glossy or polished wall tiles that appear cleaner than matte finish.

- Tiles with multiple colors, veining, mottling, or speckling appear cleaner than solid tiles. Very light or dark tones are hard to maintain with a clean appearance;
- Tiles should be large: 12 inch by 12 inch is preferred with tight joints and medium gray grout to facilitate a clean, sanitary look;
- Square edge tile should be used to minimize joint expression;
- Use cove base for ease of cleaning; and
- Tile walls to full height, or provide durable surface above the wainscot.

F.14 Furniture, Fixtures and Equipment

Furnishings utilized in stations are important design considerations to maintain the cohesiveness of the architecture and quality of experience. Seating, trash receptacles and specialty equipment specifications for material, finish and style should be coordinated with the overall facility design

F.15 Seating

Due to issues associated with loitering, the use of benches is strongly discouraged within Amtrak waiting areas. Wood benches should only be used where historic conditions mandate, due to vandalism concerns. Polyurethane seat and back pads are the preferred Amtrak standard, due to the ability of the material to withstand vandalism and harsh station conditions. Intermediate arms should be provided to discourage the use of seats for reclining. Exterior seating is to be provided on platforms.

- All seats should be of stable design and installation for the elderly or disabled to hold onto for leverage; and
- For outdoor seating, Amtrak recommends a powder coated steel bench.

Glass

Restroom Materials and Finishes

Furniture, Fixtures and Equipment

Seating

Color Guidelines

Amtrak blue is to be used for Amtrak signage, general signage, logo, and ticket counter back wall only. Do not use this color on other building surfaces to ensure that blue signage and Amtrak identity stand out.

Generally, use lighter colors for walls and ceilings to optimize light reflectance and minimize lighting energy consumption.

Use warm colors: warm whites and light grays as general ceiling and wall colors; and yellow, tan/terra-cotta, and warm greens. Avoid purples, cold grays and cold blues.

Make allowance for regional expressions in the color scheme. Limit this, however, to localized areas, such as accent wall or band, floor, medallion, and so forth.

Control color intensity and saturation, and avoid bright primary colors.

Use complementary color schemes.

Where natural materials are present, emphasize their inherent qualities: natural finish wood and wood grain, brick, stone and concrete.

Integrate the color scheme with the building architecture to systematically express building structure, mechanical systems, or way finding.

Overt distractions in the station, such as bright or flashing lights, overly bright color schemes, or video and audio clutter are undesirable.

This appendix is introductory in nature. Please refer to applicable code(s) and Amtrak SDP's for additional and more detailed information.

Plumbing

The minimum number of fixtures are to be determined by code, but additional fixtures may be required, based upon peak-hour traffic and Amtrak recommendations. All fixtures and accessories are to be vandal resistant and are to be mounted and have clearances per code and ADA requirements. Water closets are to be commercial grade, wall-mounted and without a tank.

Heating, Ventilating And Air Conditioning (HVAC)

Temperature / HVAC

Station interiors should be designed to maintain temperatures between 68 and 78 degrees, as detailed in the Amtrak SDPs. Natural gas heating should be utilized, where possible. The use of electricity for heat should only be used in circumstances where no other options exist. Consideration should be given to zoning that accommodates the numerous spatial characteristics of the station. Special attention is required at the ticket office, where equipment produces heat, and open counters or sliding glass windows allow the transmission of hot or cold air from opening and closing waiting room doors.

Interior Ventilation

Positive building pressurization should be maintained at all times. The pressurization is highest in the ticketing area and slightly lower in the public waiting areas. Positive building pressurization will keep dirt, dust and diesel or automobile smoke exhaust from entering the building.

Platform Ventilation

In instances where the development of property results in a closed or partially enclosed overbuild, the project design is to include a ventilation system designed and constructed to accommodate normal operations as well as life safety requirements. The system criteria is to be determined by engineering analyses. Accommodations are to be made to the above grade structure and will account for the design, construction and maintenance of the mechanical, electrical and structural systems for the ventilation systems as described below.

Overbuild - General

The development of facilities that result in a closed or partially enclosed overbuild structure over tracks, must include design features to ensure adequate ventilation, illuination, emergency egress and fire protection to provide a safe environment for Amtrak passengers and employees during normal and emergency operations.

Overbuild – Locomotive Exhaust

An engineering analysis is to be conducted to model the specific railroad operating scenarios of diesel locomotives within the overbuild. The result of the analysis is to be a schematic design of a mechanical system with appropriate controls to provide recommended air change rates to ventilate the space beneath the overbuild to maintain safe, acceptable concentrations of diesel exhaust gases. These levels are to be as defined by OSHA and approved by the Amtrak Environmental department.

The overbuild ventilation system is to be designed to dilute the exhaust gases of the Diesel locomotives anticipated to be utilized within the limits of the overbuild. Amtrak will provide information regarding the diesel exhaust constituents for the locomotives operating within the overbuild, as well as the operating scenarios regarding train movement within the overbuild. Stopped locomotives with head-end power, work train movements and baggage switching are to be specifically addressed in the engineering analysis.

Appendix G

Emergency Ventilation

Restroom Ventilation

**Retail Areas—
HVAC Requirements**

Overbuild – Emergency Ventilation

Where an overbuild condition is proposed, the designer is to provide an engineering analysis to model the effect of a fire within the limits of the overbuild. The result of the analysis is to be a schematic design of a mechanical system with appropriate controls to provide recommended air change rates to meet the requirements of the National Fire Protection Association, including NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems. These requirements are intended:

- To provide a stream of non-contaminated air to passengers in a path of egress away from a train fire;
- To produce air-flow rates to prevent back layering of smoke in a path of egress away from a train fire; and
- limit the air temperature in a path of egress away for a train fire to 140°F.

After the engineering analysis is completed with approved criteria and schematic design, the designer can progress the ventilation designs to finished construction documents. The engineering firm that performed the analysis is to remain under contract to the designer of record, at a minimum, to review and approve the final design of the ventilation systems and certify that it complies with, and is capable of satisfying, the previously developed criteria.

Restroom Ventilation

Sizing of a ventilation system serving restrooms should consider the impact of peak period occupancy, as the usage immediately prior and after train arrival may overwhelm the system. Restrooms are a key performance indicator for customer satisfaction, and removal of odors, in addition to frequent cleaning, is a prime factor in improving customer satisfaction.

Retail Areas—HVAC Requirements

Any cooking tenants must maintain the tenant space in 20 percent negative pressure. This requirement is to limit odor migration onto the concourse. Hoods over cooking equipment are to be directly vented to the exterior.

This appendix is introductory in nature. Please refer to applicable code(s) and Amtrak SDP's for additional and more detailed information.

Electrical Requirements

Power, lighting and communications requirements are to comply with codes and regulations and be sized as appropriate for the facility. Emergency and back-up systems are recommended to allow orderly shutdown of critical systems. Additional conduit to allow for future installations of communications and data cabling should be provided.

Conduit Locations

Provide separate conduits for;

- Lighting;
- Power;
- Public address system; and
- Telecommunications system.

Run conduit inconspicuously under roof or canopy structures, under platform structures (space permitting), concealed or buried. Abandoned conduit should be removed.

Where conduits are run on the exterior or interior of station buildings, special care should be taken to conceal the conduit. Where no practical alternative exists to surface mounting, it should be done as inconspicuously as possible. At historic stations, conspicuously mounted conduit should be avoided completely.

Both high and low-level platforms are to be constructed with underground signal and communications cables, with pull boxes, running through the platform area. They are installed parallel to the track(s), 10 feet from center of track, at a depth of approximately 30 inches. In multiple-track territory, the conduits need to be installed under only one platform. Specific requirements will be provided by Amtrak Engineering or the host railroad.

Separate conduits are to be installed under platforms for a public address system, telephones, signs, TVMs and platform lighting as required. All telecommunications conduits are to be home run to the telecommunications room or pull boxes.

Conduits run under tracks are to conform to Amtrak or host railroad standards and be at a depth of 5'-0" minimum below base of ties.

Grounding in Electrified Territory

All metal structures and fixtures, including such items as lighting posts, at stations in electrified territory is to be grounded to grounding rods and catenary structures in accordance with Amtrak standards.

Wiring, Controls and Receptacles

All wiring and material are to conform to the requirements of the International Building Codes and local codes. Conduits shall be run as inconspicuously and neatly as possible.

All wiring for exterior lighting be copper. Wiring is to be run underground in PVC Schedule 80 conduit; overhead wiring will not be permitted. Flush mounted junction boxes are not to be used on platforms.

Site lighting should be controlled by photoelectric sensors. Some localities require use of an astronomical time clock to turn off all but security lighting after the last train has left.

Electrical circuits for passenger functions should be separate from circuits for other areas of the station building. Power and lighting circuits are to be separate for all areas. Panels and controls are to be located in a secure area and accessible only to authorized personnel. Ticket agent office lighting is to be controlled by wall-mounted switches within the office, accessible only to the agent.

Grounded duplex convenience receptacles should be provided throughout the station building as required by International Building and other local codes. Dedicated grounded receptacles are to be provided for ticket agent office equipment, including ticket machines and other specialized equipment.

Individual power circuits should be provided for all hard-wired equipment. Receptacles are to be located based on equipment and furniture layout for the ticket agent office, with a maximum 6' spacing between receptacles. Space receptacles as required for housekeeping and maintenance purposes in other station areas. Receptacles in public areas are not intended for public use and should have covers.

Exterior receptacles are to be provided as required for specific site usage.

Exterior Lighting

Two general categories of Amtrak stations exist throughout the system: historic stations and modern stations. Therefore, two different lighting concepts are applicable to the respective station categories. The first relies primarily on floodlighting the historic facades, while highlighting specific ornate architectural details. The second is defining the modern station as a lantern. New stations should glow from within by illuminating internal planes that can be viewed from the outside through the glazing.

The projects should be illuminated in such a way as to minimize impact on surrounding developments. Care must be taken to avoid astronomic light pollution and the direct view of the floodlighting luminaires from adjacent developments.

Lighting should be integrated into the landscape to accent plantings and to provide general illumination for pedestrian circulation. All specified fixtures are to be low maintenance, energy-efficient and vandal resistant.

Pedestrian entry portals should be brightly illuminated for clear identification. Entry portals serve as the ceremonial entrances to the station domain and should also be seen as safe havens at night. When entering from exterior in the day, the interior lighting at the entrances should assist in the transition from the bright exterior to the relatively less bright interior.

Similar attention should be given to the vehicular entries as is given to pedestrian entries. Although passengers arriving at the station do not have as close a look at the light fixtures, all fixtures should be arranged in a careful architectural manner. If vehicular entries are from exterior to interior spaces, additional lighting must be used in the first 65 to 165 feet to alleviate the transition from outside to inside.

In parking garages, lighting should assist in the differentiation between vehicular and pedestrian circulation. For reasons of security and passenger comfort, dark corners are not acceptable.

Ticketing Area Lighting

Relatively high vertical illumination on ticketing machines and at attended ticket windows is required to adequately light the faces of Amtrak employees and passengers. The rear wall behind the ticket counter should thus be illuminated with wall washers to provide adequate lighting for corporate identity graphics and brand signatures. Fluorescent downlights over the ticket counter are to provide focal task lighting where appropriate. The addition of larger or empty conduit for phone and data cabling should be included to allow flexibility for future communications installation. Empty conduit should always include pull strings.

Appendix H

Platform Lighting

Due to the linear nature of the station platforms, the use of linear fluorescent fixtures is encouraged for general platform lighting, platform edge lighting, and ceiling uplighting. At high-speed rail stations, a system-wide lighting solution for the platforms consists of a custom-designed pendant-mounted continuous fluorescent fixture, utilizing a two lamp up/downlighting component, mounted at the platform edge in 48 foot segments. The advantage of the approach used for these locations has been an improvement in lighting on a common area of passenger injury, the gap between the train and the station platform, as well as an increased sense of brightness, overall safety and improved aesthetic.

Providence Before New Lighting

Providence After New Lighting

Other linear fluorescent fixtures can be utilized where more economical solutions are required, but any installed fixture should be able to withstand a high degree of abuse. As an example, the Se'lux "Survivor" is a fixture representing similar ideologies that is being considered in other locations. With a depth of less than 2-1/2 inches it can provide an attractive vandal resistant alternative within constrained conditions.

The use of light colored materials is encouraged to maximize the number of luminous surfaces. Exterior areas with no canopies are to utilize pole-mounted fixtures with metal halide ceramic arc tube sources (3000° K).

As with other areas, the addition of larger or empty conduit for phone and data cabling should be included to allow flexibility for future communications installation. This should always include pull strings.

Elevator And Escalator Lighting

The area immediately in front of the elevator doors should be illuminated to a higher level than the surrounding area. This may be accomplished by a lighting strip in the elevator door header or by increased frequency or intensity of fixtures in the adjacent ceiling. Elevator cab details should pay particular attention to maintenance as one can see the details from a close distance. The lighting should look as good on day 1,000 as on day 1. Reasonable re-lamping and cleaning are therefore crucial to ensure quality elevator cab lighting. As long as the minimum illuminance criteria are met on the elevator cab floor, there is wide latitude in the lighting treatment inside the cab. Both direct and indirect solutions may be proposed.

As escalators may be areas of high passenger injury, it is crucial that lighting adequately illuminates these areas. Escalators are similar to elevators in that the lighting solution may be viewed from close-up; similarly, ease of maintenance is critical. Attention must be given to achieving minimum standard service illuminances on the escalator steps. Selection of surface materials and the use of wall washing should be considered to alleviate the "dark hole" effect as one looks down into escalators. Proper lighting should be provided to ensure that safety issues at the top and bottom of escalators is addressed.

Retail Areas

Electrical Requirements

The maximum electrical load that is permitted for each type of tenant should be identified. It is imperative that capacity always be available for Amtrak operations and services.

Storefront Lighting

Lighting should follow the guidelines listed in this section. Lighting sources for retail should not be directed at the concourse or waiting area.

Concourse Lighting

A bright environment is desired. To facilitate sign identification and the rapid circulation of pedestrians, Amtrak recommends that the lighting systems provide relatively high vertical illuminances. Illumination of selected walls, columns and other vertical elements is encouraged to create a luminous perimeter. This will enhance the sense of spaciousness in the concourses. This is an area that affords a wider selection of sources than the platforms depending on the ceiling heights and spacing to mounting conditions. The designer should consider the following criteria to select the most appropriate lighting:

- Application;
- Architectural condition;
- Surrounding conditions;
- Type of fixture;
- Color rendering; and
- Energy efficiency.

To facilitate building operations, the designer should minimize the different types and sizes of lamps required. The following summary of sources should be used as a guideline in selecting lighting for the various applications in the project. Again, the addition of larger or empty conduit (with pull strings) for phone and data cabling should be included to allow flexibility for future communications installation.

Incandescent

The advantages of small size, precise beam control and excellent color rendition are out weighed by short lamp life and poor energy efficiency. For these reasons, the use of incandescent lighting should be limited to specific tasks. Only lamps with a life span in excess of 2000 hours may be specified.

- Possible Applications: Retail accent lighting.
- Typical Luminaires: Recessed adjustable accent fixture, track fixtures

Linear Fluorescent

The advantages of linear fluorescent make it viable for the majority of the lighting solutions on the project. To reduce the complexity of operations, only T8 lamps with a correlated color temperature of 3000 kelvins and a color-rendering index of 80 or better are to be specified. Longer lengths are preferred from an economical standpoint. The ability to use fewer lamps means less control gear and lower operational and maintenance costs. However, in choosing a lamp's length the issues of cost, storage and ease of installation must be considered. When analyzing all factors, specified lamp lengths should not exceed 5 feet (4 feet lamp length is recommended). It is also important that the lamp length be able to integrate within the ceiling module.

- Possible Applications: Retail, commercial, offices, platforms, check-in, ticketing, locker rooms, kitchen
- Typical Luminaires: Recessed linear troffers, Cove lighting, Linear wall washing, Task lighting, Signage

Compact Fluorescent

This source offers the many advantages of fluorescent in a much smaller package making it suitable for use in downlights and curved architectural coves. Since compact fluorescent has only moderate lamp life and lumen maintenance characteristics, its use should be restricted to applications that have higher standards of finish. To reduce the complexity of operations, only lamps with a correlated color temperature of 3000-3200 kelvins and a color-rendering index of 80 or better are to be specified.

- Possible Applications: Retail, commercial, offices, elevators, low ceiling waiting areas
- Typical Luminaires: Recessed downlights, recessed wallwashers, cove lighting, task lighting

Metal Halide

Metal Halide is an appropriate source for many applications in the project. It should be used for downlights in high ceiling spaces, areas where color rendition is not a major concern and areas where difficult access dictates minimized maintenance. Specified metal halide lamps should be in the range of 3000-3200 kelvins correlated color temperature. MasterColor Metal Halide lamps, combining better color stability, excellent color rendition (up to 85 CRI), increased efficacy and reduced energy consumption should be specified where applicable. A color rendering index of greater than 80 is required for lamps below 400 watts. A color rendering index of greater than 65 should be specified for lamps 400 watts or more.

Concourse Lighting

- Incandescent
- Linear Flourescent
- Compact Flourescent
- Metal Halide

Appendix I | Information Systems

Amtrak Identity

Signage

Trailblazer Signage

One of the most important elements to assure the safety, comfort and enjoyment of every passenger and visitor to Amtrak stations, as well as to enhance efficient operations by Amtrak employees, is presentation of a consistent, clear visual and audio information system. A station project's scope and funding should provide for all necessary signage.

The use of consistent information systems provides both real and perceived reassurances at all phases of the station experience to passengers, particularly those new to train travel. Signage is to reflect a recognizable Amtrak visual image from station to station, but be adaptable to a variety of site conditions. Audio announcements are also to be delivered in a consistent manner. Standard public announcements have been developed to present train arrival, departure and general messages to passengers, and guidelines have been developed for making emergency and security announcements in a prompt and uniform manner. Information systems should be planned as an integrated system, providing appropriate prompts and assistance at each step of the journey.

AMTRAK®

AMTRAK®

Amtrak Identity

Brand management practices dictate that the Amtrak corporate and product brands are used in ways that are consistent with approved guidelines. Misuse or changes to any Amtrak identity elements or brandmarks are not allowed, including in station applications. Guidance for usage of the Amtrak identity marks are further detailed in the Amtrak Graphic Signage Standards Manual that is available at www.greatamericanstations.com/signage.

Signage

Signage within the Amtrak system is to be consistent, and representative of the company, rather than individual services or locations. The Amtrak Graphic Standards reflect the Amtrak colors and the only approved signage types, unless historic restrictions require alternate types. Where multiple providers exist, a strategy is to be utilized that provides each agency with identifiable components of their unique branding system, along with a neutral component to present cross-agency information.

A11 Sign Type, Side A
Freestanding on Custom Posts

Trailblazer Signage

Trailblazers should be incorporated into all new construction and renovation projects. In many cases, the trailblazer placards can be installed on existing highway directional signs. Occasionally, new structures are required. The trailblazer signs should include the Amtrak identity mark, for ease of visibility, in what is often an uncertain and anxious environment.

Coordination of trailblazing signage with state and local authorities, and other transit and transportation facilities in the immediate vicinity, should be included in the various reviews with local agencies and services to provide a comprehensive solution to wayfinding for all passengers.

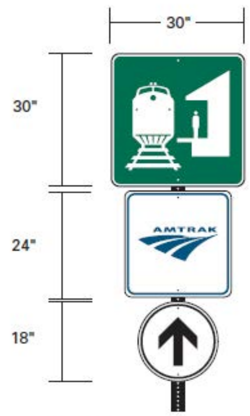
Both state and local officials will need to approve the proposed sign locations. Submittals should include verification that the additional signage components can be supported by the existing structure. In many cases where the existing structure provides adequate support, the signs can be installed as part of other signage replacement programs or highway signage maintenance programs, funded by the governing agency. Occasionally, a state DOT-approved contractor will need to be utilized for the installation of a structure or placard.

Appendix I

Station Identification

Informational and Directional Signage

The Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD) should be utilized in determining the most appropriate layouts and sizes of trailblazers. Signage is to be of grade and reflectivity to meet the respective state DOT requirements. The following table outlines general rules of thumb for the most typical sizes for trailblazer placards. All sizes should take into account the surrounding context and should be verified with the governing approval agency.



KIT #5
- One (1) Green Station Symbol Panel
- One (1) Small White Trailblazer
- One (1) Large White Arrow
- Six (6) Hardware Sets

Typical Trailblazer Signage Sizes

Signage Type	Size Min	Size Max
Highway Overhead Guides	18″x18″	36″x36″
Local Street Trailblazer – Sizes are highly variable, due to local restrictions and signage systems in place	9″x15″	24″x24″

The highway overhead signs are intended to be incorporated into larger exit and directional information signs as shown below. The specific layout standards for the use of the new Amtrak travelmark are located on the internet at www.signage.amtrakbrandmanagement.com. Alternative layouts to be combined with MUTCD standards will be supplied upon request. All alternate layouts using the Amtrak travelmark must receive internal approval within Amtrak. Original artwork will be supplied to the manufacturer for one-time use.

All proposed solutions need to be coordinated and finalized with the respective town or State DOT.

Station Identification

The exteriors of stations should be clearly identified as Amtrak service locations. Identifying signage can be directly attached to the structure, or be a freestanding component. Many first-time or infrequent passengers require reassurances that they have arrived at the correct location.

New monumental signs developed for the Northeast Corridor high-speed rail improvements use readily identifiable freestanding signage as a single aspect of the "kit-of-parts" signage program. The goal is to develop a visible trail that is recognizable to our passengers. A variety of exterior signage types have been developed, ranging from large monumental pylons to small economical panels and are incorporated into the Amtrak Graphic Signage Standards Manual.

Exterior pylon sign at Philadelphia station

Exterior panel sign in Salem, Ore.

Directional sign

Informational And Directional Signage

All interior/exterior identification components and interior space must support and reinforce the image concept being established for Amtrak and its Customers. Of major importance is to give the impression that the entire station is united with understandable sequences of information.

Ticket Office Backwall Graphics

Separate guidelines have being developed for backwall graphics, utilizing the Amtrak travelscape, and corporate and product identity marks. All ticket offices should receive this branding component, without modifications to the design intent. The ticket office is the only location that will receive branding specific to the products offered, such as Acela, the long distance or state corridor services. If there is only space for one logo, options may be evaluated to determine if the logo used represents the corporate brand, or the specific product offered.

The backwall Travelscape consists of panels that are to appear continuous on each side of the logo panel. The logo panels are to have the Amtrak blue background, with brushed stainless brandmarks. This color scheme should be coordinated with the other architectural elements of the ticket office and station. Due to the size of the output, these files are complex and must be fabricated by vendors with adequate capabilities for opening the files and producing a high quality output. The graphic below provides an overview of the graphic concept being considered.

The background panel is to be Matthews Paint color MP15470 – Amtrak Blue or the Amtrak Travelscape. The lettering and Travelmark is to be brushed stainless steel or stainless steel laminate on a ¼" backing material.

Alternative layouts using the Amtrak Wordmark may be used, as well as corridor and route identity marks upon approval of Amtrak and the sponsoring agency.

Ticket Backwall Graphic with Travelmark and Travelscape

Amtrak Backwall Graphic with Wordmark and Painted Background

Train Information Signage

Passenger Information Display Systems (PIDS)

State-Supported Corridor Service / Identity Marks

Train Information Signage

Passenger Information Display Systems (PIDS)

The use of signage and lighting is an important aspect of the boarding process. In larger stations, centrally located train information displays should be provided to inform passengers of train number, destination, departure time, boarding location and boarding status. For these larger display boards, the split-flap technology has proven to be successful over time. In fact, European systems that have upgraded the larger boards to electronic technology are finding that the sound associated with the older split-flap boards was a beneficial tool for waiting passengers, as the sound of the flaps changing informed them when there was a change in status. As a result, many systems are now retrofitting new units with a simulated split-flap sound. In larger stations, supplemental variable message signage should be supplied at the boarding gates. At smaller stations, the boarding location should be clearly identified with static signage.

Signage at boarding areas or gates in larger stations should be clearly visible from different areas of the station. The text size, both static and variable message, prioritizes the information – first gate, then track and time, followed by more detailed train information, including train number and destination, and lastly intermediate station stops served.

The use of light-emitting diode (LED) platform signs, especially at high-speed rail stations is crucial. Where a public address system is required, the ADA Guidelines require a method of conveying the information visually. All stations can benefit from this amenity, providing a level of comfort for the passenger by continually reassuring them that they are in the right location. At high-speed rail stations, the signage can be used to facilitate the boarding process, indicating boarding and exit locations, if desired. The addition of larger or empty conduit for phone and data cabling should be included to allow flexibility for future communications installation. Conduit should always include pull strings.

Passenger Information Display System

Appendix I | Information Systems

Static Signage

Supplemental signage to the train information signage and conventional (static) signage in locations where variable train information signage is not used must comply with Amtrak's Graphic Signage Standards Manual. Static signage is to be utilized as a minimum standard on platforms. Where capacity warrants, the Amtrak specialty signage package utilizing a variable message system (PIDS), in conjunction with static information should be incorporated.

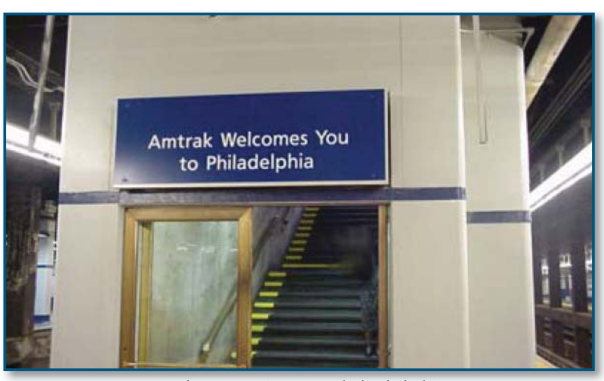
Regulatory Signage

The supplemental signage may include safety information (identifiable with red cautionary colors), as well as station identification (including Braille identification at a minimum of one location, to comply with ADA requirements) and supplemental directional information, as required.

Regulatory signage

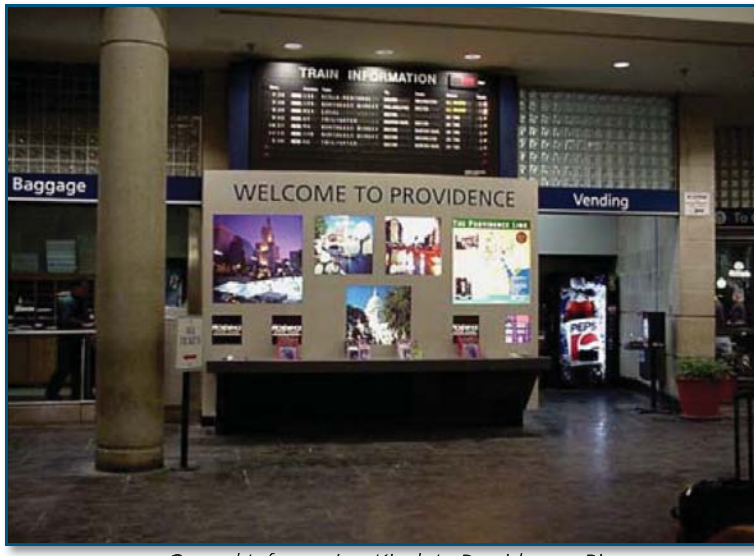
Greeting Signage

Where possible, welcome signs should greet passengers to the station location. They can be posted at points of circulation, or on entrances to the station building. These signs should reflect the graphics set forth in the Graphic Signage Manual, with the understanding that certain physical conditions may require modifications.



Welcome Sign In Philadelphia

Appendix I



Central Information Kiosk In Providence, Ri

Directional Information

Adequate directional information needs to be provided indicating exits, taxis and other connecting services. Where possible, location maps should be posted in a centralized location, allowing passengers to orient themselves to the area.

Connection Services

Information about commuter service, local or intercity bus and other connections should be available for continuing passengers. This should either be in a central location, where the passenger needs to move to a completely different area, or between detraining and exit locations.

Where possible, all of these elements should be combined into a centrally located area that is visible to detraining passengers. The display in Providence provides rental car courtesy phones, downtown maps, promotional information and images about events in the city and local bus connections.

Storefront Signs

Criteria should define the zones where signage may be installed and clarify if storefront signage is intended to be internally or externally illuminated. A combination of illumination types has the potential to create visual chaos that detracts from the primary wayfinding functions of the public space.

Public Address Systems

The use of public address systems, an integrated component of information systems, is recommended in all new stations and/or station platforms, in order to allow Amtrak to communicate with passengers, even if from a remote location. Public announcements are made in a clear, audible and uniform manner to provide train and general information, as well as emergency and security announcements throughout the station facility. Amtrak has developed standard scripts for typical announcements for system-wide utilization which may be made by both automatic public address systems and by station personnel. The primary goal of a public address system is speech intelligibility. Professional studies indicate that the minimum rapid speech transmission index (RASTI) is 0.60. In complex historic environments, this may be lowered to 0.45.

Where a public address system is required, the ADA guidelines require a method of conveying the information visually. Public address systems should be integrated with both emergency systems (strobe/warning lights) and dynamic signage systems, including passenger information display systems (PIDS).

The best approach for speaker design and layout is to supply uniformly distributed layout of closely spaced loudspeakers, operated at a low loudness level, to improve intelligibility and comfort. As a general rule of thumb, speakers should be located so that listeners within the area of coverage are similar distances from the speaker. There should be no more than a two-to-one ratio for the furthest and closest listener. Dispersion angles also need to be considered in layouts. The 4kHz coverage angle should be used in the design of PA systems.

To achieve uniformity of coverage, the following guidelines should be used:

Public Address Systems

Minimum Design Goal	± 3 dB @ 500 Hz Octave Band ± 6 dB @ 2000 Hz Octave Band
Optimum Design Goal	± 1.5 dB @ 500 Hz Octave Band ± 3 dB @ 2000 Hz Octave Band

Reverberation

RT = .05 V/ A
RT = the reverberation time in seconds
V = the volume of the room in cubic feet
A = average absorption of room

There are two other major components to be considered in PA system design for train stations – reverberation time and ambient noise levels. Long reverberation times, created by hard surfaces in large volumes create an acoustically challenging environment. For normal rooms, reverberation is a function of volume and sound absorbing materials.

Reverberation times should be targeted between 0.8 seconds and 1.4 second, with a 2-second reverberation time in larger waiting areas. The following table highlights some target reverberation times, although an evaluation of the architectural nature of the space should be considered in the final selection of the system.

In specific locations where historic and/or complex spaces are involved, the use of a professional acoustical consultant is encouraged in order to ensure that correct sound transmission and reverberation factors are being met.

Ambient noise levels vary, based upon HVAC, people activity, retail functions and trains. In tested environments, the station interior has been shown to have an ambient noise level averaging between 66dB and 70dB. Platforms with stopped trains show an average ambient noise level of 80dB to 85dB. Optimum speech levels in quiet environments are achieved between 65-75dB, with speech intelligibility dropping at levels much higher than 90dB. Since the background noise in stations approaches normal speech levels, the loudness of the sound system needs to increase. A signal to noise ratio of 10bB should be targeted. In platform locations with high frequencies of train service, the use of sound monitoring devices should be considered, accounting for the degree of ambient noise difference between empty and train-occupied platforms.

Typical Reverberation Times

Space	Reverberation Time	Considerations
Ticketing	1.2 – 1.4 seconds	Sound absorbing materials on ceiling surfaces
Waiting—Normal	1.2 – 1.4 seconds	Sound absorbing materials on ceiling surfaces
Waiting—Monumental	2 seconds	Sound absorbing materials on ceiling surfaces, if suitable and/or possible
Offices	< 1 second	Acoustical ceilings
Restrooms	< 1 second	Acoustical ceilings, Duct lining between toilets to reduce sound transmission
Platforms	1.5 seconds (maximum)	

Appendix I

Microphones

Delayed announcement playback should be utilized to eliminate squeal. Microphones should be a unidirectional type.

Preamplifier, Amplifier And Mixer

Equipment is to be rated for 250 watts output with provisions for up to 4 inputs and 70V balanced line output.

Speakers

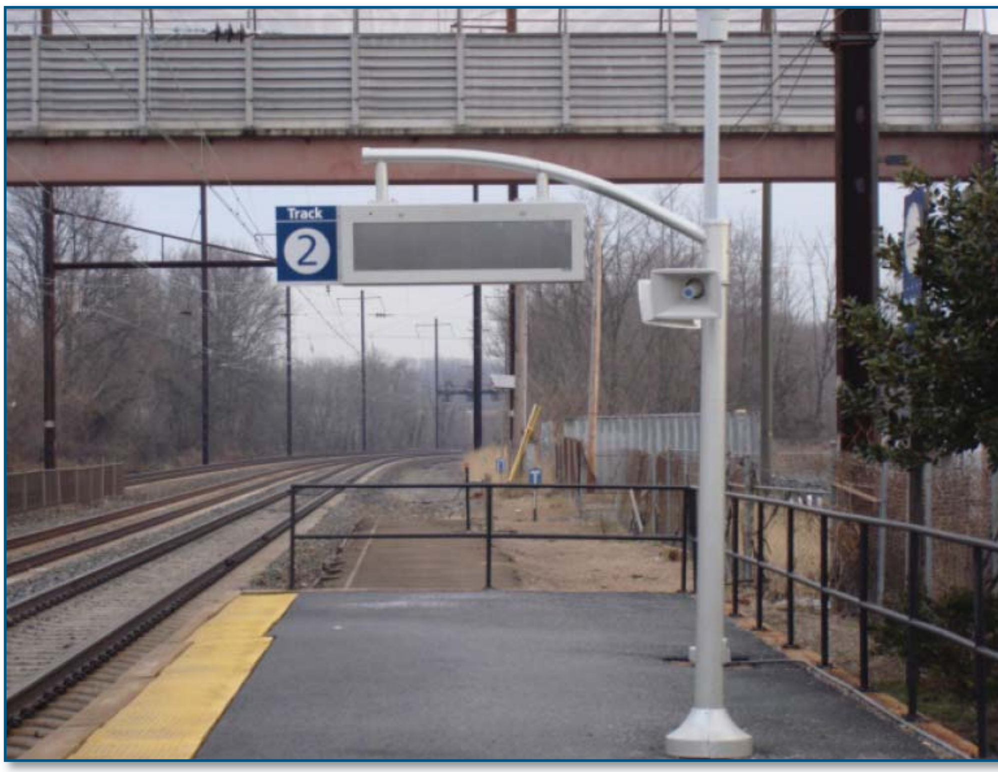
The range of human hearing for healthy individuals is between 20Hz and 18,000 kHz. As a result, most speakers available for public address systems are well within the ranges of human hearing. Low ranges of either 45 Hz or 60 Hz are acceptable, with high ranges falling between 16,000 and 18,000 Hz. Generally, the wider the range of the speaker, the better the speaker is.

Zoning requirements may vary, depending upon the station architecture, size and layout, but the minimum requirement should separate paging within the station and paging on individual platforms. Master paging locations should be considered at:

- Lead Clerk office;
- Train information operator consoles;
- Information Booths;
- Ticket offices; and
- Customer Service counters.

Secondary paging locations should be located at the boarding gates or stairway boarding locations and on the individual platforms.

Where a public address system is installed, an ADA compliant method of transmitting the same information visually is to be provided. This can be accomplished through variable message signage outlined previously or through paging monitors.



PIDS on the platform at the Aberdeen, Md., station

Vertical Circulation Elements

Appendix J

Vertcal Circulation

Stairs

Ramps

Elevators

Escalators

Elevator Design Considerations

- Should be of the ambulatory type to facilitate emergency medical operations; and
- One or more glass walls are preferred, making the interior of the cab visible from the station or platform to enhance a sense of security.

Escalator Design Considerations

- At large stations where high peak-occupant load occur, escalators should be used to ease the boarding process to platforms;
- A minimum distance of 20 feet from the top and bottom of the escalator to any wall, stair or other obstruction should be provided;
- Escalators should be reversible.;
- Additional escalators are required at the largest station in the Amtrak system to facilitate an efficient dispersion of passengers to the platform. Stations which serve primarily long distance trains need to evaluate the costs of escalators versus elevators, as passengers with luggage are more easily served with a combination of both elevator and escalator access; and
- With the Advent of an aging population, the use of escalators and elevators will become an increasing priority for Amtrak.

Vertical Circulation

The capacity of the vertical circulation system can be a critical factor in emergency egress and can be crucial to the safety of Amtrak passengers. Vertical circulation elements often become choke points in the circulation system, and thus affect the efficiency of train boarding and employee operations. In addition, elevators and escalators are expensive to purchase and maintain; and should be carefully considered as to need, capacity and location. Thus, level changes within a station should be minimized and connected with shallow ramps whenever possible. However, stations with a height difference between levels of more than 12 to 18 feet will probably need escalators in addition to stairs--certainly in the up direction. Escalators are expensive, so the number of passengers using the facility must be at a sufficient level to make them worthwhile. Vertical circulation between floor levels should be very open, enabling clear way finding , and offering opportunities for spatial drama and visual connectivity. Passengers often queue to board elevators and escalators so there must be space at the boarding point to accommodate a large number of people at busy times; kept free of obstructions and not too close to platform edges. The number of stairways and escalators must be sufficient to allow a trainload of alighting passengers to clear a platform before the next trainload arrives, and to provide evacuation of the platform safely in the minimum time, as required by life safety codes.

Stairs

Amtrak recommends that stairways should be a minimum of 5’-6” wide for the safety and convenience of passengers with baggage.

Ramps

Ramps serve as an alternative to the combination of stairs and elevators for vertical circulation. Usually connecting the platform to an underground tunnel, a ramp allows disabled passengers, the elderly, those with rolling luggage, as well as service vehicles to share the same space.

Elevators

Elevators are required between levels to meet requirements for ADA access, as well as to offer an amenity for the elderly, passengers with baggage and families traveling with children.

The minimum elevator capacity to be used within the Amtrak system is 3,500 lb. with 4,000 lb. being a preferred standard. A 3,500 lb. elevator will generally accommodate 21–23 passengers without luggage. In locations where luggage will be more common, a higher capacity elevator should be utilized. Where space limitations are a factor, the use of a hospital configuration with a narrow but deep cab should be considered. Generally, those elevators are rated above 4,000 lb.

If baggage wagons are used to support checked baggage service, appropriately sized elevators must be incorporated into the design.

Travel speed should be rated at either 125 fpm or 150 fpm, with a maximum waiting time of 30 seconds.

Non-slip flooring, such as rubber, should be utilized in all elevators. Vandal-resistant materials should be used on walls. The use of wood panelling is prohibited in Amtrak passenger elevators.

Escalators

Escalators move pedestrians efficiently between floors, providing greater peak capacity than elevators. However, escalators can also become an area for both maintenance and safety concerns. Escalators in the railway environment are usually intensively used and require a more robust design, being faster and heavier in construction because of the greater volumes of people which use them. Escalators with more flat steps at the landing, four instead of two, should be considered, to allow people to board and alight from the escalator more quickly. A two-step escalator will cause people to be more cautious because the steps start to rise immediately after the passenger boards, while a four-step escalator allows people more time to adjust to the movement, so the machine can be run faster and provide increased capacity.

The following guidelines are to be used in escalator selection:

- The escalator is to be rated for heavy-duty transit use;
- The recommended width for escalators is 3’-4”, usually referred to as a 48” escalator. With baggage, this results in a realistic flow of approximately 80 passengers per minute;
- Recommended speed is 90 fpm;
- Escalators are to be reversible , with key operated reverse functions at both the top and bottom of the unit;
- An emergency stop button is to be provided with appropriate signage; and
- Signage directing passengers to hold the handrail is to be included.

Appendix K

Occupant Load

Ticket Office: Agent/Clerk Workstations

The following tables outline basic space requirements to assist in station planning. Station project sponsors should refer to the IBC in effect in the jurisdiction within which the station is being planned. Specific program requirements for all station projects must be reviewed with Amtrak.

Occupant Load*

Amtrak Station Related Functional Space	Floor Area: SF per Occupant
Accessory storage areas, mechanical equipment room	300 gross
Passenger Terminal	
Baggage Claim	20 gross
Baggage Handling	300 gross
Concourse	100 gross
Waiting Areas	15 gross
Assembly with fixed seats	See Section 1004.7, IBC
Assembly without fixed seats	
Concentrated (chairs only, not fixed)	7 net
Standing space	5 net
Unconcentrated (tables and chairs)	15 net
Business areas (Amtrak office/staff)	100 gross
Locker rooms (employees)	50 gross
Mercantile	
Areas on other floors	60 gross
Basement and grade floor areas	30 gross
Storage, stock, shipping areas	300 gross
Parking garages	200 gross

* 2006 IBC Requirements (Chapter 10 – Table 1004.1.1 Occupant Load)

Ticket Office: Ticket Agent/Clerk Workstations

Number of ticket agents/clerk positions	Number of peak hour passengers requiring tickets and assistance
1	Up to 30 (±10)
2	30 – 80 (±10)
3	80 – 120 (±10)
more than 4	over 120, requires evaluation
Separate baggage counter, if applicable In most locations offering checked baggage, the check-in occurs at the ticket counter	55 passengers/hour using baggage or package express service

Space Requirements: Ticket Office and Support Offices

Space Requirements: Ticket Office & Support Offices

Function	Net Space Required
Each ticket counter position (width may increase with baggage services to provide for passage of baggage)	6 LF
Ticket agent/clerk workstation area (includes ticket window workstation, ticket agent position and circulation area and back counter)	10 LF depth from face of counter 15 LF or more at large stations
Employee lounge/lockers (may include restroom, kitchenette and/or break area)	100 SF minimum Add 50 SF per employee using lounge during a shift
General staff office area	64 SF minimum To comply with Amtrak Office Furniture Policies and Standards
Lead clerk/Supervisor	120 – 150 SF depending upon safe and file storage location
Station manager	150 SF
Baggage room (checked baggage only)	10 – 12 SF per passenger, peak hour usage
Baggage make up (checked baggage only)	.015 SF per annual entraining passenger
Self claim frontage (checked baggage only)	25 LF / 20 SF claim area
Public claim area	7 SF per detraining passenger
Equipment room (PIDS, PA, CPU, etc.) The size of the area required is dependent on the number of data and communication lines and UPS systems. Space must be adequately ventilated	48 – 80 SF 48 SF and up
Employee restroom	50 SF minimum (to meet ADA requirements for number of fixtures, layout and clearance)
Storefront or desk	Approximately 50 SF
Ready room (with lockers)	100 SF + 10 SF/shift employee over 5
Holding area (with secure seat with handcuff post)	35 – 45 SF
Police ADA restroom (unisex)	50 SF minimum (to meet ADA requirements for number of fixtures, layout and clearance)
Supervisor's office (if required)	120 – 150 SF

Appendix K

Pedestrian Flow (FRUIM Analysis) per Level of Service

Pedestrian Flow (FRUIM Analysis) per Level of Service

Level of Service	Area of Occupancy (SF per person)	Average Flow (people per foot of width per minute)	Comments
A	35+	7 or less	Plaza areas
B	25 – 35	7 – 10	Upper range for suburban Lower range for urban
C	15 – 25	10 – 15	Acceptable for 15-minute peak periods
D	10 – 15	15 – 20	Speed and movement restricted—acceptable for 5-minute peak periods only
E	5 – 10	20 – 25	Not recommended—maximum capacity walkway
F	<5	Up to 25	Not acceptable—breakdown in traffic flow

Appendix L

Medium Station Prototype

Plan Organization and Function

Architectural Character

Additional Design Considerations

Although Amtrak's prototype designs are usable without modification, Amtrak encourages station project sponsors to modify these designs to incorporate features that reflect the character of the local community.

Amtrak has developed prototypes for the Medium, Caretaker, and Unstaffed Stations that provide a ready-to-build station standard design which require only engineering to adapt the design to the specific site. Each prototype features the program elements delineated in the Station Classification and Features Matrix, and is sized according to the program information explained in these Guidelines. An overview of each prototype is provided here. Amtrak can provide full construction documents for these stations, that are ready for permit applications with minimal drawing accommodations to meet local site conditions and codes.

Elevation view of a Medium Station prototype

Medium Station Prototype

Amtrak's prototype for the Medium Station category provides a simple and efficient organization of the building plan with clear circulation patterns heading to ticketing, restrooms, waiting areas, and the platforms. The station design provides a large, single waiting room with visibility to the trains, and visibility from the street.

Plan Organization and Function

- Divided into two parts: the passenger side and the support function side, with the customer service counter/ ticketing at the heart of the building to optimize employee access to both operations and customers. Views from the ticket office to customer areas of the station are maximized;
- Reflectively long and narrow overall plan form that most easily fits into track-side sites; and
- The support side of the building is organized to separate the staff administrative support spaces from the baggage handling, storage, and back-of-house functions of the station.

Architectural Character

- Open and inviting waiting area with high ceilings, an exposed structural system, and a large amount of glazing allowing views into the space from parking and vehicular circulation areas, and views from the waiting area to the platforms and trains;
- Flexible waiting area with retail pods, ability to have cafe type tables for waiting, laptops, socializing; and
- Durable high quality materials, natural wayfinding.

Caretaker Station Prototype

Plan Organization and Function

Architectural Character

Additional Design Considerations

Accessibility/ Universal Access

- Limit changes in elevation to reduce need for vertical circulation elements.

Sustainability

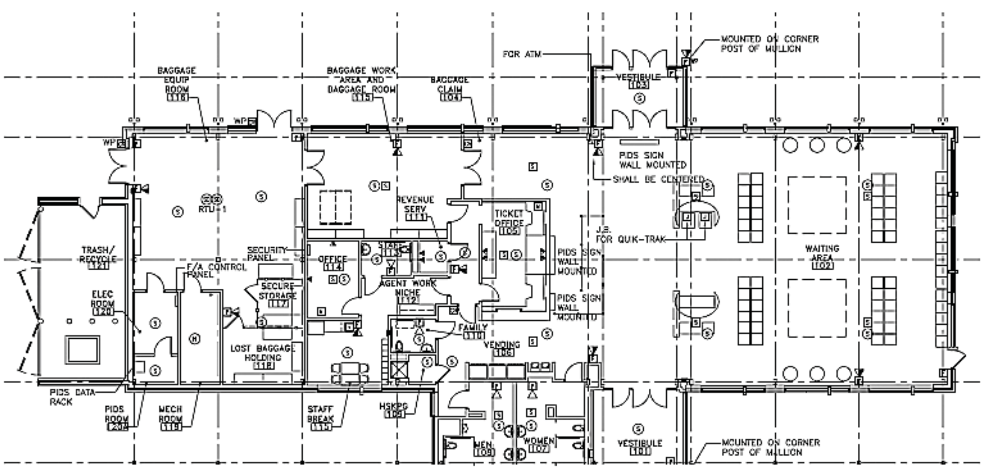
- Sloped roof to allow for solar panels - can reverse slope depending on location;
- Exterior canopies provide sunscreening - optional per location;
- Expandability - building can be extended/ lengthened at each end to expand program; and
- Natural Lighting.

Signage

- Develop signage, including Passenger Information Display Systems, early in the design phases.

Security

- Secure Baggage area/ baggage work room Accessibility/ Universal Access.



Floor plan for the Medium Station Prototype

Caretaker Station Prototype

Amtrak's prototype for the Caretaker Station provides an efficient building footprint and envelope that meets Amtrak's functional requirements for Long Distance service. The Caretaker Station prototype has also been conceived as a community space that allows a small catering kitchen or support space that allows the main waiting room of the station to be utilized for community functions. Since the Caretaker Station most commonly serves Amtrak Long Distance Service that is limited to two trains per day (one in each direction), the station building will have many hours during the day when it can be used for additional community functions.

Plan Organization and Function

- Two functional halves, public waiting and station support, that are organized around a central circulation axis connection to the public entry to the platform and train;
- Caretaker's office adjacent to the main building entry, allowing the caretaker to observe and assist arriving passengers;
- Main waiting area with views to both the public entry and the arriving train; and
- Restrooms and public support spaces visible from the main waiting room.

Architectural Character

- Open and inviting waiting area with extensive glazing and views to both public entry and train platform; and
- Open ceiling with exposed structural system.

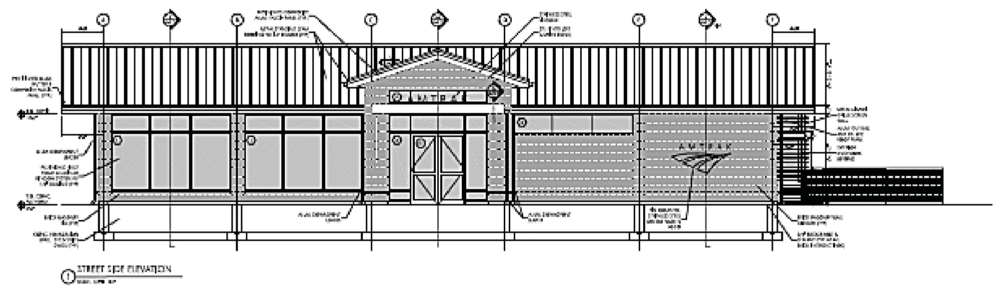
Appendix L

Additional Design Considerations

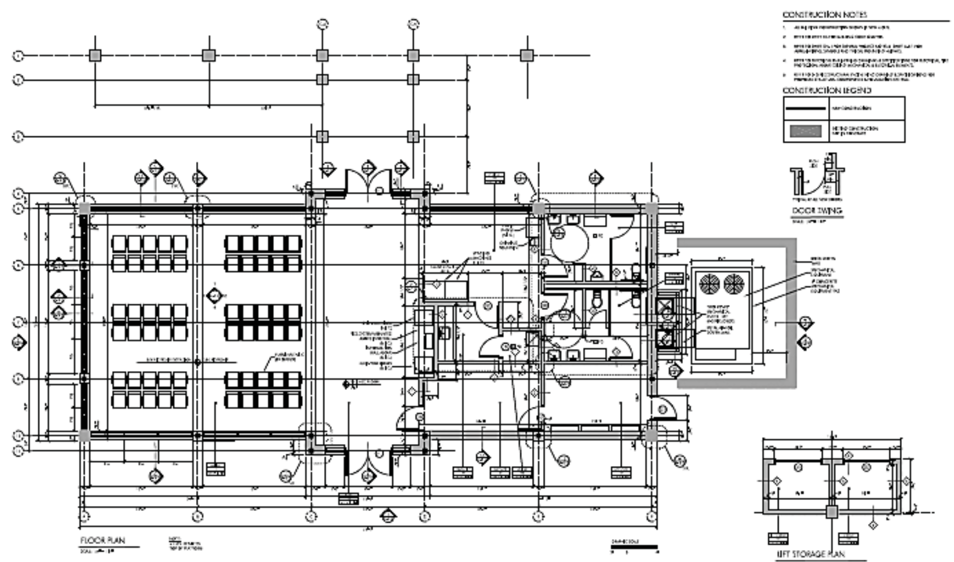
Additional Design Considerations

Sustainability

- Durable, long lasting materials;
- Broad overhanging eaves for weather protection and shading of glazed areas for direct insolation; and
- Modular floor plan and structural system allows expansion of the waiting room in infinite increments.



Street Side Elevation of the Caretaker Station prototype

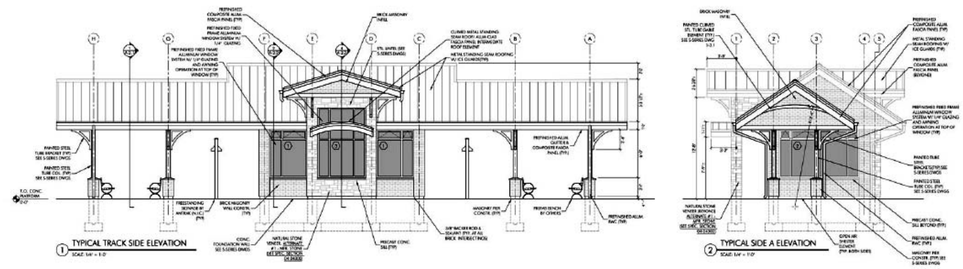


Floor plan for the Caretaker Station Prototype

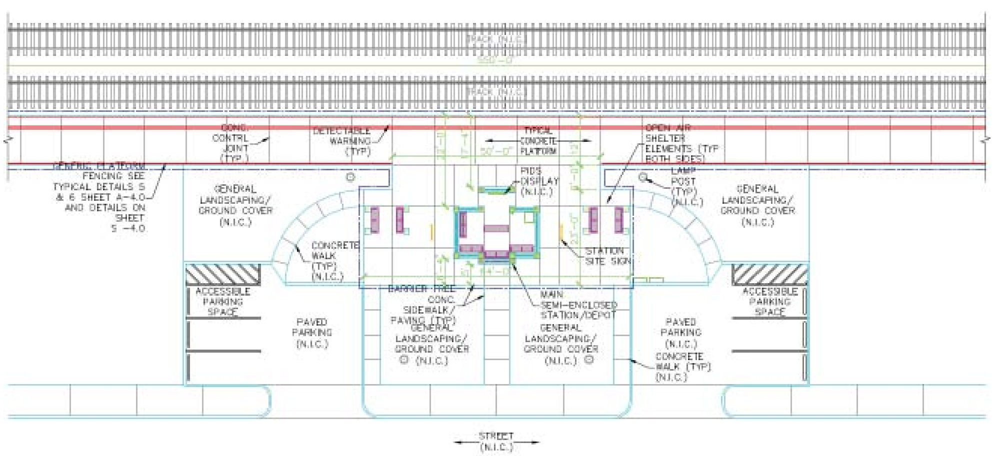
Unstaffed Station Prototype

Unstaffed Station Prototype

Amtrak's Unstaffed Station prototype has been constructed in the past few years at stations funded by the American Recovery and Reinvestment Act (ARRA) program, and several are under being designed under the Amtrak Accessible Stations Development Program (ASDP). This prototype provides shelter from the weather and presents a pleasant waiting area for passengers.



Track Side and End Elevations of the Shelter Station Prototype



Plan of the Shelter Station Prototype

Appendix M Historic Stations

Federal Section 106 Process

Project Description

Area of Potential Effect Delineation

List of Interested and Consulting Parties

Historical Resource Study

This appendix provides more detail on the Federal Section 106 process. Users should check the latest regulations to ensure that the guidance provided here is accurate and up to date.

Both the states and the federal government regulate the rehabilitation of historic structures. Section 106 of the National Historic Preservation Act of 1966 describes the historic preservation process. Every state has a similar organizational structure that regulates the restoration and preservation of historic structures, carried out through the State Historic Preservation Office (SHPO). However, it is also important to be aware of any state regulations and statutes that exceed the federal regulations, and the appropriate SHPO should be consulted for specific state and local guidelines and regulatory programs. The Secretary of the Interior has published guidelines for the renovation of historic structures. Care must be taken to identify surrounding areas that may be at risk of disturbance by the project, which might include buildings, other on-site structures, objects, sites, and districts. The following are general considerations regarding the Section 106 process:

Project Description

Developing a good understanding of the project in its entirety is essential to identifying its potential effects on surrounding areas. It is important that the project description be clear in its description of all actions that will be undertaken throughout the term of the project. The description should answer the following questions.

- Who is responsible for what work?
- What tasks are to be completed?
- When is each task to be completed?
- Where is the location of the project?
- How will each task be completed?

Hattiesburg, MIss., station in 1995

Area of Potential Effect Delineation

Care must be taken to identify surrounding areas that may be at risk of disturbance by the project. Areas of interest are listed below. Buildings

- Structures;
- Objects;
- Sites; and
- Districts.

Hattiesburg, Miss., station after a five-year, $10 million restoration project was completed in 2007

List of Interested and Consulting Parties

Throughout the Section 106 process, the project manager is to consult with knowledgeable and concerned parties, seeking, discussing, and considering their views on historic preservation-related activities. This list must be provided to the SHPO and approved by the responsible federal agency prior to contacting the parties. The following parties are entitled to actively participate as consulting parties during Section 106 review.

- State Historic Preservation Officers (SHPO);
- Local governments;
- Organizations with knowledge on local history; and
- Other individuals/organizations as approved by the responsible agency.

Historical Resource Study

Prior to the start of a project, Amtrak must review the site and identify any archeological or historic properties listed on or eligible for listing in the National Register.

- In the event that no listed or potential properties are found or a determination is made that no historical properties would be affected, the project should proceed as scheduled.
- If listed or potential properties are found, and the potential to affect these properties is determined to be real, then further investigation is necessary.

Appendix M

Effect Assessment

The project manager must perform an assessment of the adverse effects where it finds that historic properties may be affected or the SHPO or a Consulting Party objects to a no historic properties affecting finding. All consulting parties must be notified and allowed to voice their views.

- If it is found that no historical properties are adversely affected, the project is allowed to continue as scheduled; and
- If adverse effects are found, further consultation is required.

Historic Properties Affected

When adverse effects are found, the project manager must continue working with the Consulting Parties in an attempt to resolve the effects. Typically, this involves the preparation of an Alternatives Analysis, which is reviewed by the Consulting Parties.

- If the adverse effects are able to be resolved, a Memorandum of Agreement is executed between SHPO and the public agency.

State Register Review Process

For stations listed on the states register of historic places, all projects require authorization under the local historic preservation act. If the project is in compliance with the state's act, it will receive approval. If it does not comply, it must be presented to the local historic sites council or corresponding state body, which will generally grant a conditional authorization to the project.

Adaptive Reuse Applications

When historic stations or portions of them are adapted for partial or complete reuse applications, preserving the building elements, design features, and identifying their operational railroad origins is of the greatest importance.

The use of station name, directional, and informational signs throughout the exterior and interior help retain the rail station identity. Certain architectural features, including ticket windows and baggage room doors are important station features, and should be preserved wherever possible.

In general most state preservation regulations require that any such reuses be reversible, and that they should reflect, but not copy, the station's historic character.

This Appendix provides a more detailed description of the Transit Arts Program that may be a component of a station's development.

N.48 Transit Arts Committee (TAC)

The TAC is headed by the project sponsored and chaired by the Transit Arts Program Manager. Its purpose is to identity opportunities for art to be integrated in the design, as well as the artist selection process. Membership of the TAC varies with each project. However, each TAC is comprised of "Core" members which include project management and key stakeholder representations. "Non-core" members include the A/E design consultant and a representative(s) from the community.

In some instances, an advisory group of arts experts is assembled to guide and make recommendations to the TAC regarding local talent and/or opportunities. The TAC can then make its final decision based upon the advice received from the arts advisors, in addition to the criteria mentioned above (see "Artist Selection", below).

N.49 Artist Selection

To maximize the potential of artists' contributions, it is important to involve the artists as early as possible in the architectural and engineering (A/E) design process. Early involvement also provides great opportunity to match artists' skills and experience with appropriate opportunities. Criteria for selection of artists are described below, based on the type of art opportunity, which, for purposes of program implementation, are classified into two broad categories: integrated art opportunities and art projects.

Integrated Art Opportunities

Art opportunities requiring collaboration between artists and other designers/engineers involved in the preliminary engineering phase (up to 30% complete design) are included in this category. It is expected that artists involved in this manner will be able to improve the character of the built elements and spaces, and will add a positive image to the transit environment. In collaboration with architects, landscape architects and engineers, artists are expected to infuse familiar forms, such as columns, walls, ceilings, platforms, stairways, landscapes, and even light rail vehicles, with special qualities and references to communities in which they are being built.

Artists for integrated art opportunities are design team artists. They should be selected and included in design teams at the beginning of the preliminary engineering phase to provide design consultation to the architects, landscape architects and engineers responsible for designing system elements that have been identifies for artist-assisted design.

The role of the Design Team Artist will be to inject creative ideas into the design process, develop criteria for additional artwork, and / or propose artwork. These artists will work directly with the project managers, project architects and engineers and are integral to the design process. Their work will be included in the preliminary engineering documents. Selection of artists are Design Team Artists should be based on the primary criteria of artistic excellence as demonstrated by examples of past work, and applicants' ability to provide the following services to the projects' designers.

- Advise with the project design architect during the programming, conceptual development and final definition of design phases, and/or develop distinct artwork.
- Develop proposals for incorporating other artists' work into the project.
- Research the social and physical context of the project and consider its relevance to design, offering conceptual direction that supports the community, site and goals of the project.
- Identify opportunities for art projects and assist in the preliminary engineering effort by identifying the size/location of the artwork and the integrated and art project costs budget for the art projects identified. integrated costs include cost of design, documentation, fabrication and installation that can be carried out by the architect, engineer and/or general contractor.
- Develop criteria for selection of project artist and subsequent development of art projects in the final engineering phase. art project costs include cost of artist fees, commissioned free-standing art objects, and/or fabrication/installation by the artist or other specialized labor.

Appendix N

Art Projects

These are special opportunities for artists to design artworks and/or artistic elements in and around transit facilities to enrich the day-to-day experience of riders and to improve the overall quality of the public environment. In such projects, artists will have the opportunity to engage in their creative process without the constraints of intensive and extensive collaboration with other designers. Opportunities include murals on or adjacent to facilities, free-standing sculpture in pedestrian.

Artists for art projects are project artists. They should be selected after completion of preliminary engineering but before commencement of the final engineering phase. The artists will design and develop artworks during final engineering and will execute the artwork upon completion of final engineering.

Project artists are usually involved during the final phase of design. The selection of these artists should be based on the primary criteria of artistic excellence (as demonstrated by examples of past work) and applicants' ability to provide the following services in the final engineering phase of the project.

- Design artworks that relate to and complement the project (based on criteria developed by design team artists during the preliminary engineering phase).
- Coordinate with the architect, TAC and transit arts program manager on the technical requirements and details of proposals.
- submit proposals independent of the design team for review by TAC.

N.50 Method For Selection of Artists

Artists can be invited to participate by any one of the following methods.

- *Open Competition*
  Requests for artists' slides, resumes, letters of interest are advertised through arts publications, the local media and direct mailings to artists. The TAC review all submissions and selects an artist(s) or requests short listed artists to further compete by making specific proposals.

- *Limited entry*
  The TAC invites a number of artists to submit slides and resumes and/or proposal. From this more limited pool, the TAC makes its selection.

- *Direct selection*
  The TAC directly selects an artist or team of artists using the resources of state and local agencies.

N.51 Criteria For Artwork Selection

The following principles and criteria are suggested as the basis for the selection of artwork. Although a large number of people need to be consulted during the selection process, the final decision should be made by the TAC. Good art has rarely been selected by general public consensus.

- Artistic quality of proposed artwork(s)
- Appropriateness of the proposed artwork(s) to the site(s) and to the objectives of the project
- Permanence, durability, maintainability and use of high-quality materials
- Absence of hazards to the public
- Recommended measures to protect against vandalism
- Innovation in use of materials and techniques
- Willingness of the artist to carry out the project in coordination with the project team or any ongoing/pending construction by Amtrak
- Ability of the artist to create and install the artwork(s) within the established time frame
- Price within budget constraints.

Appendix O | LEED, Sustainability and Environmental References

The following are reference resources to assist in developing sustainable and energy efficient buildings and operations.

1. U.S. Green Building Council (www.usgbc.org)
   a. LEED Reference Documents by Rating System
   b. LEED for Neighborhood Development Rating (Pilot)
   c. U.S. GBC Publications
   d. Other Research Reports
2. International Code Council (www.iccsafe.org)
   a. International Building Code
   b. International Mechanical Code
   c. International Plumbing Code
   d. International Fuel Gas Code
   e. International Fire Code
   f. ICC Electrical Code
   g. International Property Maintenance Code
   h. International Private Sewage Disposal Code
   i. International Energy Conservation Code
   j. International Green Construction Code (IgCC)
3. U.S. Department of Energy (Energy Efficiency and Renewable Energy) (www.doe.gov)
   a. Department of Energy Technical Standards
   b. State Energy Building Codes
   c. Building Energy Use and Cost Analysis Software
4. U.S. Environmental Protection Agency (www.epa.gov)
   a. Regulatory Agendas & Regulatory Plans
5. Occupational Safety and Health Administration (www.osha.gov)
   a. Occupational and Safety Health Standards (http://www.osha.gov/pls/oshaweb/owastand.display_standard_group?p_toc_level=1&p_part_number=1910)
   b. Directives (http://www.osha.gov/OshDoc/Directive_pdf/ADM_12-0_9.pdf)
6. American Society of Heating, Refrigeration and Air Conditioning Engineers (www.ashrae.org)
   a. ASHREA Standards
      i. ASHRAE/IESNA 62.1-2007 Users Manual: Ventilation for Acceptable Indoor Air Quality
      ii. ASHRAE/IESNA 90.1-2007 Users Manual: Energy Standards for Buildings Except Low-Rise Residential
   b. Refer to web site for a complete listing of standards
7. Energy Star (www.energystar.gov)
   a. Guidelines for Energy Management

Appendix O

    b. Energy Star Specifications

8. Environmental Building News (www.buildinggreen.com)
    a. Greenspec Guideline Specifications (CSI format)
9. Sustainable Buildings Industry Council, SBIC (www.sbicouncil.org)
    a. Small Commercial Buildings Program
    b. Federal and Large Commercial Buildings
10. New Buildings Institute, NBI (www.newbuildings.org)
    a. Advanced Lighting Guidelines, Pending 2008
    b. Heating and Cooling Solutions
    c. Energy Performance of LEED for New Construction Buildings
11. Federal Emergency Management Agency (www.fema.gov)
    a. Disaster Aid Program - Hazard Mitigation Assistance

Appendix P | Funding Sources

Funding Types

Federal Funding Sources

Although Amtrak dedicates a portion of its annual capital spending to station-related projects, funding needs routinely exceeds the amount of money available. In addition, Amtrak is limited by statute regarding spending on assets that it does not own. Consequently, Amtrak's ability to contribute to station projects around the country is limited. Fortunately, there are multiple potential sources of funding for such projects, and a funding plan that relies in part on several sources typically has te best chance of succeeding.

The following is a description and a list of programs that could provided funding for station projects. These programs are subject to change, and the latest information should be consulted from agency websites and/or contacting the agencies directly.

Funding Types

The funding for a project may consist of different types of capital, according to the project's characteristics and the types of partners involved. Funding types include:

Capital Funds: The basic funding for station projects will come from capital funds. The sources of these funds may be Amtrak, or another government entity such as a state or municipality. Capital funds may be derived from legislative appropriations (for instance, by Congress), from tax revenues collected by the government entity, from bonds backed by the general taxing power of the entity, or by a dedicated stream of revenue (taxes, tolls, or other revenue) raised under the authority of that entity.

Revenue Bonds: Municipal entities, public authorities, and development corporations can raise funds for projects by selling bonds directly to outside investors, who receive a stream of interest payments over the life of the bond (usually 10 to 20 years). As with loans, bond interest must be paid from some form of income such as local tax revenue or lease payments, and the value of the bonds (principal) must be paid off at the end of the term. The risk of nonpayment determines the interest rate on the bonds. The cost of interest to the project can be lowered by means of credit enhancement techniques, which include bond insurance or guarantees from entities (such as municipalities) with broader-based revenues and lower risk of nonpayment.

Grants: The federal government and the states sponsor a wide variety of grant programs for which different kinds of station work may be eligible (grants typically can't be used for the private portions of projects). Grants need not be paid back, nor must interest be paid, making them the lowest-cost form of funding. Depending on the program, grants may be awarded directly to the agency or to other partners in the station project (such as the municipality or local development corporation). Grant programs vary widely in public purpose and eligibility requirements: see below for more detail.

Loans: Government programs also provide loans (at subsidized interest rates) which can be used to reduce the cost of borrowing funds for the station project overall. The borrower is responsible for paying back the funds, from local tax revenues, from leasing arrangements, or from future government appropriations. The total amount paid for the project is less than it would have been had the funds been borrowed privately, and this represents a benefit for the public purpose of the project.

Tax Incentives: Station projects with the right characteristics can make use of tax incentives, in which a state or local government agrees to forego tax revenue that would normally be collected from the project. Tax incentives come in different forms, with a typical form of local tax incentive being used to reduce or eliminate property or sales taxes on the for-profit portion of a project for some years after construction, allowing the savings to be used for bond interest. Another type of tax incentive is channeled through eligible non-profit entities which accept funds for the project from for-profit investors in return for certificates which reduce their taxes.

Federal Funding Sources

A description of the array of federal grant and loan programs that could be applicable to Amtrak station projects is shown in Exhibit B.1. These include the following categories:

Transportation Grants: Grants and loans administered by the U.S. Department of Transportation and its subsidiary agencies: the Federal Railroad Administration (FRA), the Federal Transit Administration (FTA), and the Federal Highway Administration (FHWA). FRA and FTA grants are usable for station infrastructure directly; FHWA grants may be usable for pedestrian and intermodal aspects of station projects.

Appendix P

Funding Partners

Transportation Grants

ADA Specific Grants: Grants and loans administered by the Federal Transit Administration that are awarded for the specific purpose of upgrading facilities to be accessible for persons with disabilities. These grants may be used to fund the accessibility components of a station project.

Community Development Grants: Grants and loans administered by the Department of Housing and Urban Development for the purpose of economic development and employment for low- and moderate-income individuals. These grants are potential components of public-private partnerships or joint development projects. Energy Efficiency Grants: Grants and loans administered by the Department of Energy to promote energy-efficient rehabilitation and upgrade of facilities.

Historic Preservation Grants: Grants and loans administered by the National Trust for Historic Preservation to promote conservation and rehabilitation of historic structures, including rail stations. Planning and Demonstration Programs: These programs are administered by a variety of agencies, and are closely targeted at particular goals (for instance, pedestrian transportation). Though of small size, and often limited to a small number of eligible communities, they can be considered to add features valued by local partners to small station projects.

Federal Tax Incentives: A number of tax incentive programs (which provide tax credits or deductions related to the value of specific types of investments) have been established for a number of purposes (such as historic preservation and community redevelopment). Tax incentive programs are administered through various agencies (for example, the Rehabilitation Tax Credit for historic buildings is administered through the National Park Service), but awarded by the Internal Revenue Service. Although government agencies do not pay taxes, tax incentives are of value in public-private arrangements where the incentives are awarded to a for-profit entity in return for capital funds.

Matching and Compliance Requirements: Federal grant programs have matching requirements, which require that the project include a certain minimum percentage of local funding for each dollar of federal funding. The minimum required match varies by program, and can be up to 100 percent of the amount of federal funding sought. Federal funds are also subject to a number of compliance and reporting requirements, which can limit the development or contracting strategies used, and so should be taken into account when determining if a project is suitable for federal funding. State and Local Funding Sources

State and local funding is important not only as a significant resource for completing station development projects, but also as a measure of the level of support and buy-in from local stakeholders. Such funds are available for a variety of purposes, including economic and community development, historic preservation, and energy efficiency, as well as for general transportation purposes. State and local funds are often used to meet matching requirements for federal funds provided for similar purposes. Depending on the agreement with local stakeholders, they may be used for basic rehabilitation, or to add features (such as pedestrian or intermodal facilities) that enhance the quality of the project. Funding from states and localities is diverse and location-specific. It covers a full range of the funding types previously discussed, including capital funds from states, municipalities, and public authorities and various kinds of grant, loan, and tax incentive programs. Special tax districts and tax increment financing are also widely used at the local level to support debt financing for individual projects within a specific area.

Funding Partners

The following table is a list of relevant agencies and authorities, by type, with contact information.

Program	Primary Purpose	Relevant Eligible Projects	Key Requirements	Reference
Transportation Grants				
Transportation, Community, and System Preservation Program (TCSP)	Efficiency, environmental	Intermodal centers (bus), streetscape improvements	Capital costs must be eligible under Ch. 53 of 49 U.S.C.	Transportation, Community and System Preservation Program

Program	Primary Purpose	Relevant Eligible Projects	Key Requirements	Reference
Transportation Enhancement Program (TE)	Surface transportation	Preservation of historic facilities; pedestrian facilities	Project must be related to surface transportation and serve a current or past transportation purpose.	Transportation Enhancement Activities
ADA-Specific Programs				
Section 5310 Public Transportation Capital Projects to Meet the Special Needs of Elderly Individuals and Individuals with Disabilities	Funding for public transportation capital projects planned, designed and carried out to meet the special needs of elderly individuals and individuals with disabilities	Rehabilitation or upgrade of station accessibility elements	Projects must be included in a locally-developed human service transportation coordinated plan	Transportation for Elderly Persons and Persons with Disabilities (5310); 49 U.S.C. 5310
New Freedom Program Grants	To encourage services and facility improvements to address the transportation needs of persons with disabilities that go beyond those required by the Americans with Disabilities Act	Rehabilitation or upgrade of station accessibility elements	Projects must be included in a locally-developed human service transportation coordinated plan	New Freedom Program (5317); 49 U.S.C. 5317
Community and Economic Development				
Community Development Block Grant (CDBG) – US HUD	Annual grants on a formula basis to entitled cities, urban counties and states to develop viable urban communities and expanding economic opportunities for low- and moderate-income persons	Station projects that can address the employment and economic development goals of the program.	CDBG funds are allocated to states, counties and cities on a formula basis. Local governments administer the program and determines which local projects receive funding	Community Development Block Grant Program

Appendix P

Program	Primary Purpose	Relevant Eligible Projects	Key Requirements	Reference
Section 108 Loan Guarantee Program (part of CDBG)	To provide communities with a source of financing for economic development, housing rehabilitation, public facilities, and large-scale physical development projects	All projects	Projects must principally benefit low- and moderate-income persons, aid in the elimination or prevention of slums and blight, or meet urgent needs of the community	
Commercial Revitalization Deduction	Construction and rehabilitation of commercial property in Renewal Communities (RCs)	Projects with private participation in designated Renewal Communities (RCs)	State concurrence is required in order to take the deduction; does not apply to land costs; subject to statewide deduction limit	New Jersey Economic Development Authority
Brownfields Economic Development Initiative (BEDI)	To assist cities in redevelopment of abandoned, idled and underused facilities burdened by environmental contamination	Joint development projects on industrial or commercial sites with real or potential environmental contamination	Emphasis on near-term results and demonstrable economic benefits; projects must increase economic opportunity for persons of low- and moderate-income, or stimulate economic revitalization	
Community Renewal Initiative	To encourage businesses to open, expand, and to hire local residents	Joint development projects in Renewal Communities and Urban Empowerment Zones		
Energy Efficiency				

Funding Partners

Historic Preservation

Program	Primary Purpose	Relevant Eligible Projects	Key Requirements	Reference
Energy Efficiency and Conservation Block Grant (EECBG) – US Dept of Energy	To assist eligible entities in implementing energy efficiency and conservation strategies to improve energy efficiency in the transportation, building, and other appropriate sectors	Projects with on-site renewable energy technology	Awarded to local communities (directly or through the State), which may subgrant funds to non-governmental entities; may fund other activity as determined by the Secretary of Energy	National League of Cities: Energy, Environment, and Natural Resources
Historic Preservation				
National Trust Community Investment Corporation	To make equity investments real estate projects that qualify for federal and state historic tax credits	Joint development projects at historic stations	(See requirements for federal tax credits)	National Trust Community Investment Corporation
Rehabilitation Tax Credit	To encourage the preservation and reuse of the nation's built environment by offering federal tax credits to the owners of historic properties	Rehabilitation of historic buildings	Historic buildings must be certified for full tax credit value; the rehabilitation work must be done according to the Secretary of the Interior's Standards for Rehabilitation	Federal Rehabilitation Tax Credit

Appendix Q

Reference Documents

1. Amtrak Planning and Design Standards and Guidelines, http://www.greatamericanstations.com
2. Amtrak Graphic Signage Standard Manual, http://www.greatamericanstations.com
3. Amtrak Engineering Stations Standard Design Practices (SDP) – rev. 06.14.12
4. AIT Operations – Fielded Systems – Revenue Equipment Data and Power Requirements
5. AIT Operations – Fielded Systems – Revenue Equipment Data and Power Requirements
6. Amtrak Police Department – Corporate Security – Standard Design Practice (Guidance, Practices and Recommendations)
7. Amtrak Standard Track Plan - Roadway Sections Dwg. No. AM70003A
8. Amtrak Standard Track Plan - Minimum Roadway Clearances Dwg. No. AM70050G
9. Amtrak Engineering Practices 3014 - Maintenance and Protection of Railroad Traffic During Contractor Operations
10. Amtrak Engineering Practices 3016 - Storm Water Drainage and Discharge from Adjacent Property onto Amtrak Right-Of-Way
11. Amtrak Engineering Practices 3006 - Design and Construction Criteria for Overhead Bridges
12. Amtrak Standard Structures Plan - Curved Protective Fence Dwg. No. SP3002
13. Amtrak ET Standard – Electrified Territory O.H. Bridges - Typical Protection Barrier ET-1446-D Pages 1 & 2
14. Amtrak ET Standard - Electrified Territory O.H. Bridges - Temporary Protection Shield & Barriers ET-1147-D
15. Amtrak Engineering Practices 3005 - Pipeline Occupancy – Specification 02081A
16. Amtrak Standard Structures Plan - Platform Safety Stripe Dwg. No. SP8001
17. Amtrak STR-601 CAD Standards – Amtrak Engineering Structures
18. Amtrak Engineering Practices 3003 - Blasting Procedures
19. CE – 4 Specifications for Wire, Conduit and Cable Occupations of National Railroad Passenger Corporation Property
20. Amtrak Engineering Practice EP4006 – Overbuild of Amtrak Right-of-Way Design Policy
21. Amtrak Premise Distribution System Standards, Amtrak Cabling Standards VI.0
22. Amtrak Engineering Specification No. 150 - Stormwater Management Policy
23. Amtrak Specification – AED-1 Procedures and Design Criteria to be Employed by Electrification Consultants Engaged in the Design of Electrification Facilities on the National Railroad Passenger Corporation
24. Amtrak Specification – AED-2 Catenary Structure Loading, Design Criteria, and Standards for Use on the Northeast Corridor and Keystone Branch
25. Amtrak Engineering Specification No. 63 - Track Design Specification
26. AREMA Standard for Pier Protection/Crash Walls Adjacent to Railroad Tracks

Appendix R | Glossary and Acronyms

Architectural Engineering firm (A/E): A firm that provides both design and engineering services.

Acela Express: Amtrak's premier, high speed train service, travelling from Boston, MA to Washington, DC at speeds of up to 150 mph.

Access Board: An independent federal agency devoted to accessibility for people with disabilities, created in 1973 to ensure access to federally funded facilities.

Americans with Disabilities Act (ADA): A law passed in 1990 which extends civil rights protections to individuals with disabilities.

Amfleet: A type of single level passenger coach and cafe cars.

Americans with Disabilities Act Architectural Guidelines (ADAAG): A document containing scoping and technical requirements for accessibility to buildings and facilities by individuals with disabilities under the ADA, published by the Access Board.

Above top of Rail (ATR): The height of the station's platform above the top of the rail. Can be 8, 15, or 48 inches.

Auto Train: Amtrak's service for passengers and their personal vehicles between Northern Virginia and Central Florida.

Basis of Design (BOD): A step in the station planning process.

California Car: Bi-level passenger coaches owned by the State of California which feature two sets of automatic doors and a wheelchair lift.

Catenary: The system of overhead wires that powers electric locomotives on Amtrak's Northeast and Keystone Corridors.

Caretaker: A person who may or may not be an Amtrak employee who opens and closes the station for passengers before and after trains. They cannot sell tickets or handle baggage.

Clerestory: Rows of windows above eye level that allow light into an interior space.

ClubAcela: First class lounges in New York, Philadelphia, Washington, and Boston.

Federal Railroad Administration (FRA): A federal agency under the Department of Transportation which promulgates and enforces rail safety regulations, grant programs, and conducts research and development in support of improved safety and national rail policy.

Federal Transit Administration (FTA): A federal agency under the Department of Transportation which funds and oversees safety for transit systems across the country.

Federal Highway Administration (FHWA): A federal agency under the Department of Transportation which funds and oversees safety for state and federal roads across the country.

Feet per minute (FPM): The unit used to measure the speed of elevators and escalators.

Foot Candle: A unit of illumination.

Force Account: A payment method used for work performed for third parties using railroad personnel.

Horizon Fleet: A type of single level passenger coach and cafe cars.

Host railroad: A company, usually a freight or commuter railroad, who owns the tracks over which an Amtrak train runs.

Appendix R

Heating, ventilation, and air conditioning (HVAC): systems for temperature control in buildings.

Indefinite delivery indefinite contract (IDIQ): a simplified job order contracting system

Intermodal (also known as multi-modal): The ability to transfer between different modes of transport. ie. bus to ferry, Amtrak to commuter rail

Leadership in Energy and Environmental Design (LEED): A system from the United States Green Building Council which scores new buildings based on sustainability attributes.

Level boarding: The preferred method of boarding, where the height of the station platform and the deck height of the rail car are the same so there is no need to climb to enter the rail car, and a passenger in a wheelchair can board without assistance.

Long-Distance Service: Train service over 750 miles.

Metropolitan Lounge: First class lounges in Chicago Union Station and Portland Union Station in Oregon.

National Historic Preservation Act of 1966: A law whose section 106 describes the historic preservation process.

Non Powered Control Unit (NPCU): An old locomotive which is placed at the end of the consist opposite the locomotive. The engine has been removed, and a roll-up door added so that it can be used for baggage service. The controls remain in place so that the engineer can operate the train in the opposite direction, when turning the train around is difficult.

Northeast Corridor (NEC): The track between Boston and Washington, most of which is owned by Amtrak.

Polychlorinated biphenyls (PCBs): Organic Compounds that are extremely hazardous, historically found in oils used in electric transformers.

Passenger Information Display Systems (PIDS): A system of video monitors and audio announcements to convey train arrival and departure information to passengers.

Passenger Rail Investment and Improvement Act of 2008 (PRIIA): An Act of Congress that reauthorized Amtrak's funding, as well as authorizing grants for rail services.

Pounds per Square Foot (PPF): A unit measuring how much weight a platform can hold.

Ridership: A statistic showing how many passengers have been carried during a certain time frame.

Quik-Trak: Amtrak's self service ticketing machines.

Right of Way (ROW): The land a rail line sits on, as well as land immediately adjacent to it, that can be used for maintenance or expansion of that line.

State Historic Preservation Office (SHPO): A state agency that protects local structures which are of historical significance.

Surfliner Car: Bi-level passenger coaches owned by the State of California which feature two sets of automatic doors and a wheelchair lift.

Sustainable Design: Designing structures to minimize adverse effects to the environment.

State Corridor Service: Train service under 750 miles.

State Transportation Improvement Plan (STIP): Multi-year capital improvement fund for state transportation projects.

Superliner: A type of Bi-Level passenger coaches, sleeper and dining cars.

Tactile Warnings (also known as truncated domes or detectable warnings): A system of contrasting colored, textured ground surface indicators which alert a person with a visual impairment of danger, as in the edge of a rail platform.

Trap: A hatch in the floor of a single level rail car's vestibule, which reveals steps that allow passengers to board from low level platforms.

Teletypewriter also known as Telecommunications Device for the Deaf (TTY/TTD): An electronic device that allows text communication over a telephone line. Required by law when four or more pay phones are provided.

Transit Oriented Development (TOD): An area within walking distance of a rail or transit station which has incentives for high density residential and commercial development.

Trainset: A set of semi-permanently attached locomotives and passenger coaches.

The United States Department of Transportation (USDOT or DOT): A federal agency which oversees transportation matters.

Viewliner: A type of single level sleeper or dining car.

Volatile Organic Compounds (VOCs): Organic compounds that can emit hazardous fumes.

Way finding: A system of signs which allow passengers to find their way through a rail station.

Wheelchair lift: A device that allows a passenger in a wheelchair to enter a rail car when the platform and rail car deck is a different height. It can be portable or a part of the rail car.

APPENDIX E: RESOLUTIONS

CitrusConnection

1212 GEORGE JENKINS BLVD., LAKELAND, FL 33815 | 855-POLKBUS (765-5287) | WWW.RIDECITRUS.COM

Mr. Paul Simmons
Modal Development Administrator
Florida Department of Transportation, District One
801 N. Broadway Ave.
P.O. Box 1249
Bartow, Fl. 33831-1249

DIST. ONE ISD
JAN 03 2019
FDOT-BARTOW

SUBJECT: LAKELAND INTERMODAL CENTER RECOMMENDATION

Dear Mr. Simmons:

At the December 11, 2019 meeting, the Lakeland Area Mass Transit District (LAMTD) Board of Directors voted to support the implementation of the "Downtown West, Option B" alternative identified in the Florida Department of Transportation's Lakeland Intermodal Center Feasibility Study. A new Intermodal Center at this location will provide much needed additional capacity for the Citrus Connection's fixed-route bus system, designed to current safety standards for our patrons and operators.

We are excited about the opportunity for a state-of-the-art transportation hub with improved connectivity to intercity bus and passenger rail services at a location that is less impacted by freight rail operations that frequently close the Florida and Missouri Avenue crossings immediately adjacent to LAMTD's current terminal at 200 North Florida Avenue.

We thank you and the entire project team for their work and continued partnership to make the new Intermodal Center a reality!

Sincerely,

Phillip E. Walker

Commissioner Phillip Walker
Chairman

Cc: Tom Phillips, LAMTD Executive Director
Anthony Delgado, Lakeland City Manager
Nicole Travis, Community and Economic Development Director
Greg James, Assistant Public Works Director
Ryan Kordek, Transportation Planning Administrator, Polk TPO
LAMTD Board of Directors
Lakeland City Commission

RESOLUTION NO. ____

PROPOSED RESOLUTION NO. 19-081

A RESOLUTION OF THE LAKELAND CITY COMMISSION SUPPORTING THE "DOWNTOWN WEST, OPTION B" ALTERNATIVE FOR THE LAKELAND INTERMODAL CENTER AS IDENTIFIED IN THE FLORIDA DEPARTMENT OF TRANSPORTATION'S FEASIBILITY STUDY.

WHEREAS, Downtown Lakeland is a transportation hub for Polk County, with the Lakeland Area Mass Transit District (doing business as the "Citrus Connection"), AMTRAK and Greyhound operating mass transportation facilities and/or services for residents, employees and visitors; and

WHEREAS, the Citrus Connection operates nine transit routes that travel through its main passenger terminal, located at 200 North Florida Avenue; and

WHEREAS, this terminal is approximately 30 years old and is functionally-obsolete, having neither the capacity nor physical design to safely and efficiently serve our community's transit needs; and

WHEREAS, the terminal's location on State Road 37 (Florida Avenue) at the CSX rail crossing creates significant delays due to the expected increase in freight rail traffic, particularly for its Gold Line (formerly Route #1); and

WHEREAS, significant development and re-development is occurring or planned within Downtown Lakeland, such as the new Mirrorton residential community, Springhill Suites Hotel at RP Funding Center, re-development of the former West Lake community on Lake Beulah, new office and employment-based development around Lake Mirror and Bonnet Springs Park with an associated mixed-use development program for the former Florida Tile Site near Lake Wire; and

WHEREAS, several “catalyst sites” were evaluated throughout Downtown to establish a vision for more intensive development activity and coordinated public improvements to increase Lakeland’s tax base and promote efficient use of our community’s infrastructure; and

WHEREAS, the RP Funding Center is Polk County’s largest events and convention venue, home to the Lakeland Magic National Basketball Association G-League affiliate of the Orlando Magic, the Florida Tropics SC indoor soccer club of the Major Arena Soccer League and host to hundreds of other annual events including conferences, trade shows, cheer and dance competitions, entertainment events and civic events; and

WHEREAS, Downtown Lakeland is located at the core of the City’s Central City Transit Supportive Area as designated in the Lakeland Comprehensive Plan 2010-2020, with policies that recognize and encourage the availability of alternative transportation options; and

WHEREAS, numerous existing and planned Lake-to-Lake Bikeway routes converge in Downtown Lakeland, with premier bicycle and pedestrian routes that connect Lakeland’s neighborhoods, employment centers, parks and lakes with regional trail facilities such as the future West Lake Hunter Trail (Lakeland-Plant City Connector) and the Fort Fraser Trail; and

WHEREAS, the Florida Department of Transportation (FDOT) continues to fund substantial investments in multi-modal transportation within the central

Lakeland area, including the SR 37/Florida Avenue Road-Diet Test (FPN# 444627-1), Capital and Operating components of the SR 37/Florida Avenue Transit Circulator (FPNs# 44915-1, 44916-1), Central Lakeland Transit Signal Prioritization Project (FPN# 440319-1), New York Avenue Cycle Track (FPN# 433260-1) and New York Avenue Pedestrian Overpass over the CSX Rail Line (FPN# 436656-1) and additional future investments identified through FDOT's Lakeland Area Alternatives Analysis completed in 2018 and supported through City Commission Resolution #5495; and

WHEREAS, FDOT is currently conducting a US 98 Bus Rapid Transit Feasibility Study between Downtown Lakeland and Interstate 4, which is intended to ultimately provide a dedicated busway through the medical district (home to the main campuses for Lakeland Regional Health and Watson Clinic) and Mid-Town Community Redevelopment Area to planned Interstate 4 Express Bus and Brightline/Virgin Trains high-speed rail services; and

WHEREAS, the Momentum 2040 long-range transportation plan developed by the Polk Transportation Planning Organization (TPO) includes a future extension of the SunRail commuter rail line from the Orlando Metropolitan Area to Lakeland, with interim bus service between Lakeland and Haines City, Lake Alfred and Auburndale concurrent with each incremental westward extension of this commuter rail line; and

WHEREAS, FDOT commenced the Lakeland Intermodal Center Feasibility Study in 2018 to evaluate alternative sites for a new transportation hub in a location more conducive to the transit system expansion a.) with additional transit vehicle capacity, b.) constructed to today's modern safety standards with technology supporting future transportation innovations c.) to be coordinated with station(s) serving either high-speed (Interstate 4) or regional passenger (CSX line) rail services, d.) with parking facilities to serve surrounding development with sufficient excess capacity to support future regional rail services and e.) enhanced pedestrian access routes to achieve stated goals of an efficient, multi-modal transportation center that can support and enhance our community's mobility options and encourage private investment and public-private partnerships to support the community's vision for Downtown; and

WHEREAS, five locations were evaluated for the Lakeland Intermodal Center facility by FDOT, three in the Downtown area and two near the Interstate 4/US 98 interchange at Exit 32; and

WHEREAS, based on analysis and comments received from the public and Project Advisory Committee, the number of alternative sites were reduced to the Lakeland Police Department Parking Lot ("Downtown East") and City-owned land immediately north of the RP Funding Center between Lemon and Main Streets ("Downtown West"); and

WHEREAS, FDOT's project team developed alternative layout options for the Downtown East and Downtown West sites, with each Downtown East option yielding fewer new bus staging positions than the Downtown West options and bus ingress/egress points that would have to be located on Bay Street directly opposite to the townhomes being constructed within the Mirrorton residential community; and

WHEREAS, the Lakeland Police Department has expressed concerns regarding the security of its officers and employees associated with the development of an intermodal center on the Downtown East site and the reduction in number of secured parking spaces that could accommodate its employees relative to the current space count in its parking lot; and

WHEREAS, the Downtown West site can accommodate more bus staging positions and a substantial amount of vehicular parking spaces that can increase according to the ultimate number of desired garage levels, offsetting some of the surface parking space losses associated with the RP Funding Center catalyst site vision; and

WHEREAS, the AMTRAK Station should be moved to the Downtown West site from its current Lake Mirror site location, incurring additional initial capital cost but providing opportunities for redevelopment of the Lake Mirror site; and

WHEREAS, the Downtown West site can be used to incentivize desired growth to the north and west of the RP Funding Center, provide connectivity to private investments on the former Florida Tile site and Bonnet Springs Park, public investments in the New York Avenue corridor and the City’s investment in a new roundabout on the north shore of Lake Beulah at the western gateway to Downtown;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF LAKELAND, FLORIDA:

SECTION 1. The Downtown West site best meets the goals of the Lakeland Intermodal Center project and supports the long-term visions for Lakeland's Downtown and the larger transportation network.

SECTION 2. Option B for the Downtown West site includes a parking garage that can accommodate more vehicular parking spaces than a surface lot and can fit within City-owned lands bound by Main Street, Lemon Street and Ohio Avenue, allowing the remaining private properties on that block to be utilized for non-transportation uses that will contribute to the City's tax base.

SECTION 3. The Downtown West, Option B alternative can include appropriate transit, commuter/intercity rail, ridesharing, bicycle/pedestrian and other amenities of an urban transportation center that provide a true hub for Lakeland, Polk County and the Central Florida Region.

SECTON 4. The Downtown West, Option B alternative can include a grade-separated crossing of Main Street to provide a safer route for pedestrians accessing a new rail passenger platform.

SECTION 5. The Downtown West, Option B alternative is positioned to provide direct access to the RP Funding Center, future mixed-use development on the former Florida Tile site via an elevated walkway, and other future development and re-development opportunities on the west side of Downtown between State Road 37 (Florida Avenue) and Lake Beulah.

SECTION 6. The Lakeland Area Mass Transit District Board selected Downtown West, Option B as its preferred alternative at its December 11, 2019 meeting. The Lakeland Intermodal Center Project Advisory Committee likewise approved this alternative at its December 12, 2019 meeting.

SECTION 7. The Florida Department of Transportation and Lakeland Area Mass Transit District (Citrus Connection) are requested to commence the necessary planning and design exercises to implement the Downtown West, Option B alternative.

SECTION 8. The Polk Transportation Planning Organization, Florida Department of Transportation and Federal Transit Administration are requested to allocate funds for the discrete project implementation phases for the Downtown West, Option B alternative, including but not limited to environmental analyses, design and/or construction, for inclusion in the Five-Year Work Program or at the earliest available opportunity.

SECTION 9. The Polk Transportation Planning Organization is requested to likewise include any programmed State and Federal funding for the Lakeland Intermodal Center in its Five-Year Transportation Improvement Program.

SECTION 10. This Resolution shall take effect immediately upon passage.

PASSED AND CERTIFIED AS TO PASSAGE this 16th day of December, A.D. 2019.

____
H. WILLIAM MUTZ, MAYOR

ATTEST: ____________________________
KELLY S. KOOS, CITY CLERK

APPROVED AS TO FORM AND CORRECTNESS: ________________________
PALMER C. DAVIS
INTERIM CITY ATTORNEY

www.lakelandgov.net
228 SOUTH MASSACHUSETTS AVENUE
LAKELAND, FLORIDA 33801
863.834.6000

ANTHONY J. DELGADO
City Manager
863.834.6006

January 6, 2020

L.K. Nandam, District One Secretary
Florida Department of Transportation
Post Office Box 1249
Bartow, FL 33831

SUBJECT: LAKELAND INTERMODAL CENTER FEASIBILITY STUDY: TRANSMITTAL OF RESOLUTION #5591

Dear Secretary Nandam:

Through this correspondence, the City of Lakeland is pleased to transmit Resolution #5591 as approved by the Lakeland City Commission on December 16, 2019. This Resolution expresses the City's support for the Downtown West, Option B alternative and requests FDOT, the Polk Transportation Planning Organization and Federal Transit Administration to allocate funds for discrete implementation phases for this new facility.

The City of Lakeland appreciates FDOT's investments in this and other nearby multi-modal transportation feasibility studies that will improve the quality of life for our community's residents, employees and visitors. If you have any questions or need additional information, please contact Chuck Barmby at 834-6028.

Sincerely,

Anthony Delgado
City Manager

/jms

xc: Lakeland City Commission
Nicole Travis, City Community & Economic Development Department
Heath Frederick, City Public Works Department
Greg James, City Public Works Department
Paul Simmons, Florida Department of Transportation
Ryan Kordek, Polk Transportation Planning Organization
Tom Phillips, Lakeland Area Mass Transit District (Citrus Connection)

APPENDIX F: REFINED COST ESTIMATES

CITY OF LAKELAND

DRAFT

INTERMODAL CENTER

PLANNING SUBMITTAL

ESTIMATE OF PROBABLE CONSTRUCTION COST

Feb. 19, 2020

No.	Description	Construction Estimate
1	Parking Garage (580 Spaces @ $18,000/space), incl. stairs, electrical, fire prot. (Levels 2-4)	$10,440,000
2	Ground Level 1 (Bus Parking, Circulation, High Structure) (100,000 SF @ $60/SF)	$6,000,000
3	Conditioned Space incl. restrooms, admin., and support areas (30,000 SF @ $250/SF), 4 levels	$7,500,000
4	Passenger Elevators in Garage (4 ea, 4 stops)	$720,000
5	Garage Architectural "skin" (approx. 53,000 SF @ $25/SF - Allowance)	$1,325,000
6	Tower and Pedestrian Bridge (incl. Stairs and Elevator, not conditioned) (Allowance)	$1,200,000
	Total Construction Cost Estimate (2020) - escalation NOT included (Items 1-6)	**$27,185,000**
	Estimated Range of Construction Cost (for scope items 1-6 above)	**$25M to $30M**
7	ON-Site Work incl. Demolition, Earthwork, Drainage, Utilities Site Prep, Hardscape	TBD
8	Solar Array (Roof Top) incl. Structural Framing and Accessories	TBD
9	OFF-Site Improvements (Roads, Signals, Utilities, Signage, Site Electrical, etc.)	NOT INCLUDED
10	FF&E - Ticket Booths, Vending Machines, Entry/Exit Arms, Parking Space Guidance System, Security Cam.	NOT INCLUDED

ESTIMATE EXCLUDES:

Site Remediation / Mitigation (muck removal, advserse site conditions)	Assume Not Required
Right-of-Way / Property Acquisition	Not Included
Design / Engineering, Planning, Programming, Construction Administration, Owner Soft Costs	Not Included
Escalation from present day (2020) to future mid-point of construction	Not Included
Scope associated with Railroad (Track, Signals, Station, Directiional Signage, Crossings, Safety, etc.	Not Included
Pending	Not Included
Pending	Not Included

Estimate Qualification: Atkins estimated range of probable construction cost for this project is based on planning level information. Intent of estimate is to provide a general guidance of potental project budget for the scope included. Note "Not Included and Excluded" scope above. Estimate could vary from final bids based on selected design option, design progress, means and methods, phasing/sequencing, associated other necessary work, coordination with existing site conditions, perceived risk, competitive prices from subcontractors and suppliers, market conditions, etc. Intent of estimate is to provide probable construction cost range to complete this project based on the scope noted. Atkins does not guarantee that any bids for this project will not vary from the estimated costs. Atkins recommends that detailed cost estimates be developed and reconciled with project budget as design progresses through the completion of contract documents.