

Madison Passenger Rail Station Identification Study

January 2024

PRELIMINARY DRAFT

MADISON DEPARTMENT



OF TRANSPORTATION

HNTB



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1. Introduction

The City of Madison initiated a Passenger Rail Station Identification Study to evaluate options and identify a recommended passenger rail station location that could be served by a future extension of Amtrak's Hiawatha Service route. The study includes coordination with applicable agencies, including the Wisconsin Department of Transportation (WisDOT), Federal Railroad Administration (FRA), Amtrak, railroad companies, and other stakeholders to ensure agency requirements are addressed. Public engagement events are being conducted at key milestones to integrate feedback from interested citizens and potential future users of the station.

The overall purpose of the study is to:

1. Evaluate potential corridors and sites to identify a feasible, recommended intercity passenger rail station in Madison that could host a future extension of Amtrak's Hiawatha Service.
2. Partner with Amtrak, WisDOT, railroad companies, and other potential station cities (Watertown, Oconomowoc, and Pewaukee) to prepare for federal funding opportunities.
3. Develop a planning report to document the study's findings and support future environmental studies.

The study is being conducted by the City of Madison now because:

4. New historic levels of federal funding available for passenger rail from the Bipartisan Infrastructure Law.
5. Madison is identified as a key connection in multiple recent state and federal rail studies.
6. The City of Madison planning infrastructure and community connections in place to conduct the study.
7. The study will build upon prior passenger rail efforts to bring passenger rail to Madison.

Historically, Madison was served primarily by two competing railroads, the Milwaukee Road (also known as the Chicago, Milwaukee, St Paul, and Pacific Railroad) and the Chicago and North Western Railway. In addition, the Illinois Central Railroad had a spur ending in Madison. These companies provided passenger rail service to Chicago, Milwaukee, Minneapolis/St. Paul, and other destinations. Four passenger rail stations primarily served Madison, shown below:

1. Milwaukee Road station near the northeast corner of West Washington Avenue and Regent Street
2. Milwaukee Road station near the southwest corner of Blair Street and Wilson Street
3. Chicago and Northwestern station near the northeast corner of Blair Street and Wilson Street
4. Illinois Central station near the southwest corner of West Washington Avenue and Bedford Street

Service was discontinued by these companies around or before 1971 when Amtrak was created and took over operation of the national passenger rail network. The Milwaukee Road, Chicago and North Western, and Illinois Central are no longer in operation and their tracks were mostly taken over by other Class 1 railroads. Because Madison is not on any of the main rail lines between Milwaukee and Minneapolis/St. Paul, Amtrak's long-distance service did not serve Madison; instead it followed the former Milwaukee Road's route through Columbus, WI, now part of the CPKC (formerly Canadian Pacific Railway) network. Two original station buildings remain (the Milwaukee Road station on West Washington Avenue, and the Chicago and North Western station on Blair Street), but these buildings have been converted to other uses.

Glossary

Acronym or Term	Definition
FRA	Federal Railroad Administration
Amtrak	National Passenger Railroad Corporation
WisDOT	Wisconsin Department of Transportation
Hiawatha Service	Existing Amtrak route between Chicago and Milwaukee with seven daily round trips
Empire Builder	Existing Amtrak long distance route with once daily service between Chicago and Portland, OR / Seattle, WA through Milwaukee, Columbus, WI, La Crosse, and Minneapolis/St. Paul
TCMC	Twin Cities – Milwaukee – Chicago. Part of the Empire Builder route between Chicago and Minneapolis/St. Paul through Milwaukee, Columbus, WI, and La Crosse.
BRT	Bus rapid transit. The planned Madison BRT system consists of two routes, the East-West BRT line (E-W BRT) and North-South BRT line (N-S BRT)
TNC	Transportation Network Company, point-to-point app-based transportation service with drivers who own their vehicles
Connects US	Amtrak's passenger rail expansion plan
Passenger rail service	Regularly scheduled passenger rail service generally on tracks shared with freight trains, with speeds of up to 79 mph
HSR	High speed rail, passenger rail service on dedicated tracks with speeds of 150 mph or more
Higher speed rail	Passenger rail service with speeds between 90 mph and 125 mph
Amtrak long-distance route	Core Amtrak passenger rail route over 750 miles, supported by the federal government, generally with once daily service
Amtrak state-supported route	Amtrak passenger rail route less than 750 miles supported by state funding, with one to many round trips per day
Amtrak Northeast Corridor	Amtrak passenger rail route between Washington, DC and Boston with frequent daily service and very high ridership
Bipartisan Infrastructure Law (BIL)	A United States federal statute providing unprecedented funding for new and improved infrastructure, including passenger rail (also known as the Infrastructure Investment and Jobs Act)
Corridor ID Program	FRA's Corridor Identification and Development Program, the program and pipeline for passenger rail projects funded by the Bipartisan Infrastructure Law
WSOR	Wisconsin and Southern Railroad, a regional freight rail company providing service in Madison as well as southern Wisconsin
CPKC	A Class 1 freight rail company with tracks shared by Amtrak in Wisconsin and a spur track into Madison
Metra	Commuter rail system in Chicago that shares some tracks and stations with Amtrak

2. Relevant Plans and Programs

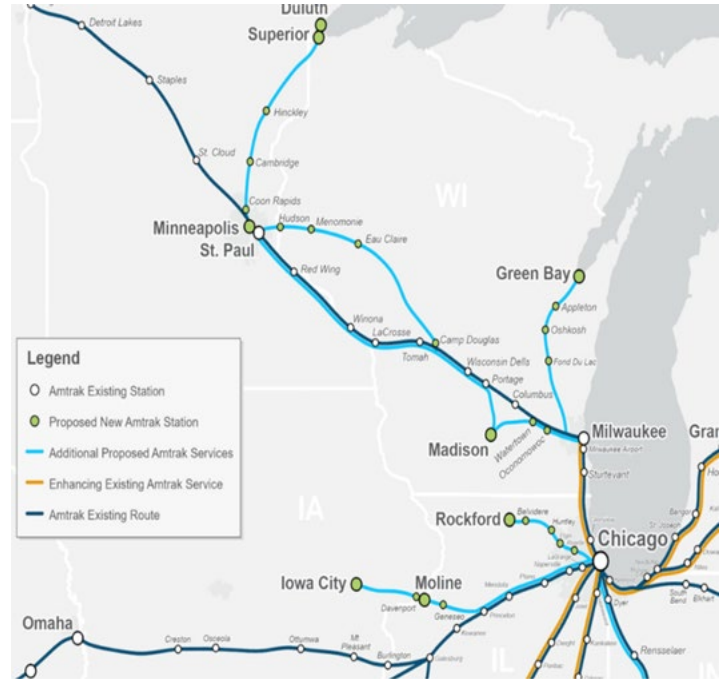
Recent federal and state plans identify corridors for intercity passenger rail expansion in Wisconsin and throughout the Midwest with Madison as a key market for future service. These plans coupled with new federal funding programs for passenger rail have restarted rail planning efforts in Madison and throughout the state. These recent plans and programs lay the foundation for future intercity passenger rail to Madison.

Amtrak Connects US

Amtrak Connects US is a comprehensive plan completed in 2021 with a 2035 horizon intended to develop and expand intercity passenger rail corridors in collaboration with state partners. The plan expresses Amtrak’s goals to implement conventional service in the near term, create or expand initial markets for intercity passenger rail service, and expand service consistent with state rail plans.

In Wisconsin, Amtrak’s plan recommends extending four daily Hiawatha Service round trips from Milwaukee to Madison. Additional recommendations include expanding the Chicago to Milwaukee Hiawatha Service from seven to ten daily round trips, extending three Hiawatha Service round trips from Milwaukee to Green Bay, adding additional service between Chicago and Minneapolis/St. Paul via Eau Claire, and initiating four round trips from Minneapolis to Duluth through Superior, Wisconsin. Figure 2.1 depicts the existing and proposed Amtrak services in Wisconsin and adjacent states from the Amtrak Connects US plan.

Figure 2.1: Midwestern Corridors, Amtrak Connects US, 2021

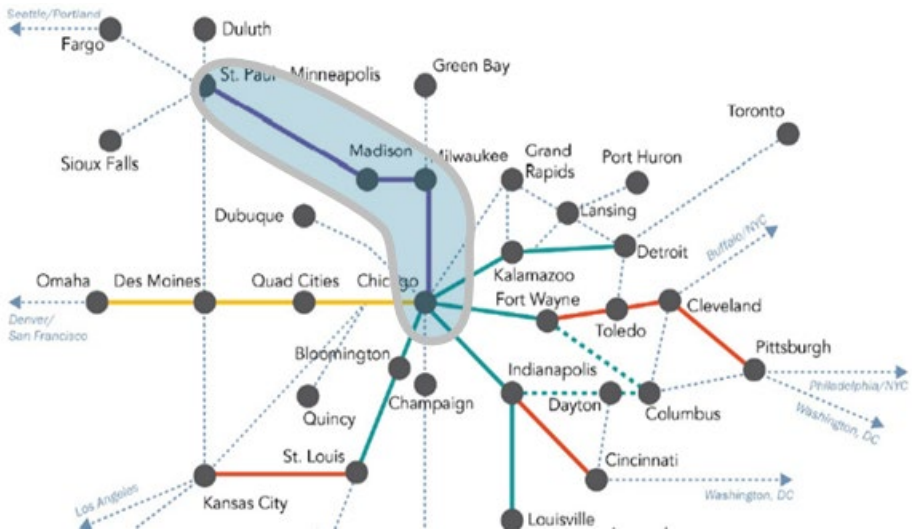


Midwest Regional Rail Plan

The FRA completed its Midwest Regional Rail Plan in 2021. The plan sets forth a strategic 40-year vision for the Midwest’s passenger rail network and includes recommendations for network configuration, service levels, financing, and governance. Figure 2.2 shows a map of the proposed network.

The plan states that Madison is a significant market critical to the operational viability of the core express corridor between Chicago and Minneapolis – St. Paul. While this ambitious plan for high-speed rail is supported, it should be noted that the current planned project is conventional passenger rail service on existing tracks with a 79 mph speed limit, and is not the implementation of the FRA Chicago to Twin Cities higher-speed rail corridor. This core express route through Madison with speeds of over 125 mph and electrification will be difficult to achieve on the existing freight rail tracks.

Figure 2.2: FRA Midwest Regional Rail Plan Network, 2021



Wisconsin State Rail Plan 2050

WisDOT adopted the State Rail Plan 2050 in July 2023, an update to its 2030 Plan. The plan includes policies for railroad crossings, freight rail, Wisconsin’s state-owned rail system, long-distance passenger rail, intercity rail, and commuter rail. The plan identifies the Milwaukee to Madison and Madison to Minneapolis / St Paul routes as potential intercity passenger rail services for the medium time horizon, defined as 2027 to 2037. It also provides an overview of the planning and implementation process for federally funded intercity passenger rail corridor projects as shown in Figure 2.3.

Figure 2.3: Wisconsin State Rail Plan – Proposed Intercity Passenger Rail Service

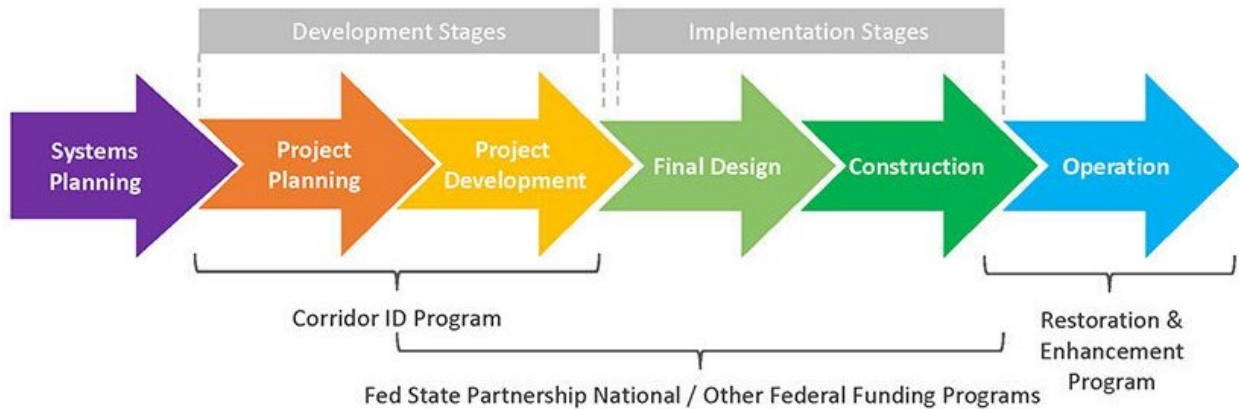


Source: Wisconsin Department of Transportation

FRA Corridor Identification Program

Authorized by the Bipartisan Infrastructure Law (BIL), the FRA established the Corridor Identification and Development Program (Corridor ID Program). The program is intended to be the primary means for directing federal financial support and technical assistance toward the development of proposals for new or improved intercity passenger rail services throughout the United States and to generate a pipeline of projects ready for federal funding.

Figure 2.4: Overview of FRA Corridor Planning and Implementation Process



The FRA released the first Notice of Solicitation of Corridor Proposals in December 2022 with proposals from eligible agencies due in March 2023. With \$360 million in program funding available for fiscal year 2022, the program will provide federal financial and technical assistance toward the completion of planning and preliminary engineering activities for new or improved passenger rail.

WisDOT partnered with Madison and other cities along the route to apply for entrance into the program to extend the Hiawatha Service from Milwaukee to Madison, and continuing to Eau Claire and Minneapolis/St. Paul. The application also included in the extension of service from Milwaukee to Green Bay and additional trips along the existing Hiawatha Service corridor and along the Minneapolis/St. Paul, Milwaukee, Chicago (TCMC) corridor, shown in [Figure 2.5](#).

In December 2023, Wisconsin received notice that its proposed corridor applications, including the Milwaukee-Madison-Eau Claire-Twin Cities Hiawatha extension, were accepted into the Corridor ID Program. It was awarded a total of \$2.5 million to support Step 1 Corridor Development Initiation work, including \$500,000 to support planning work along this corridor. This work will include developing a scope for the Service Development Plan (SDP). No local match is required for Step 1 of the program. Step 2 of the Corridor ID Program would provide a 90% federal match to develop the SDP and begin National Environmental Policy Act (NEPA) documentation. Step 3 of the Program would provide an 80% federal match for the completion of NEPA documentation and preliminary engineering. Selection announcements for the Corridor ID Program are anticipated in late 2023.

While Amtrak does not necessarily have to be the operator of new passenger rail service funded through the BIL, the Hiawatha Service extension to Madison is assumed to be an Amtrak service because it is the extension of an existing Amtrak route.

Figure 2.5: Wisconsin Passenger Rail Corridors – Existing and Planned

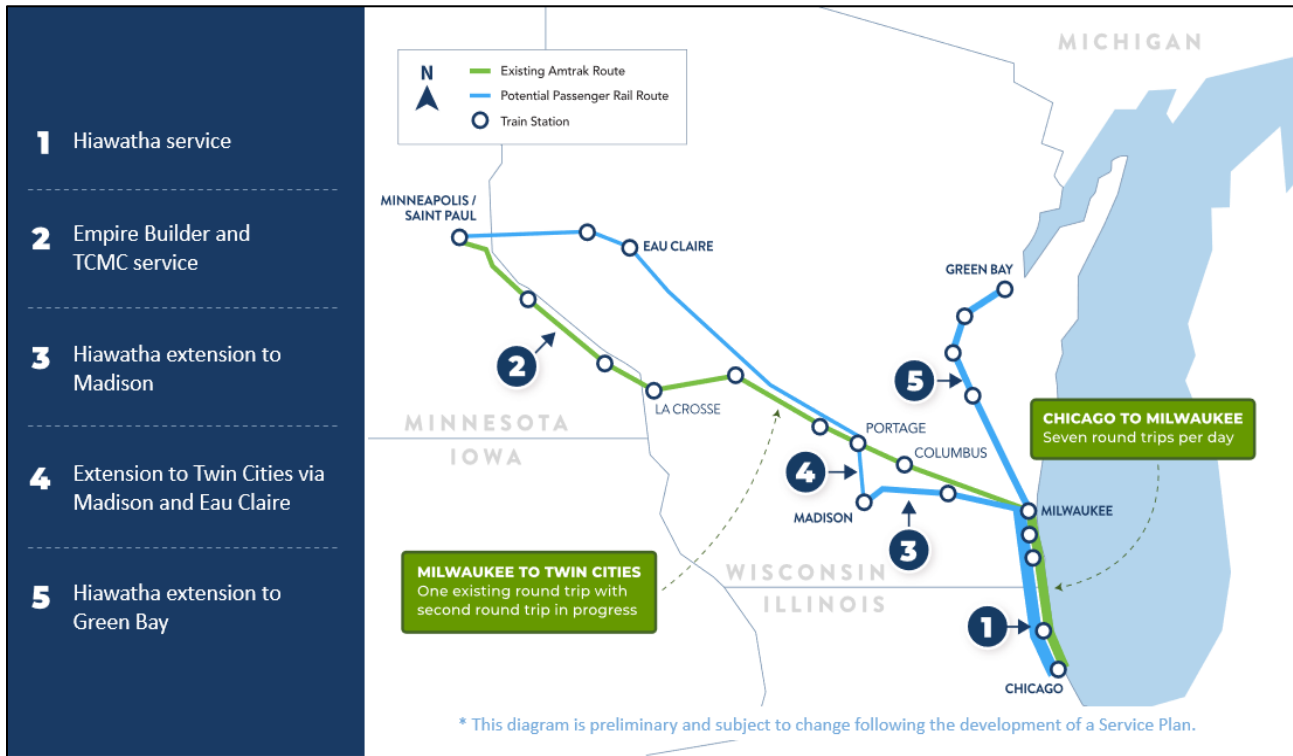


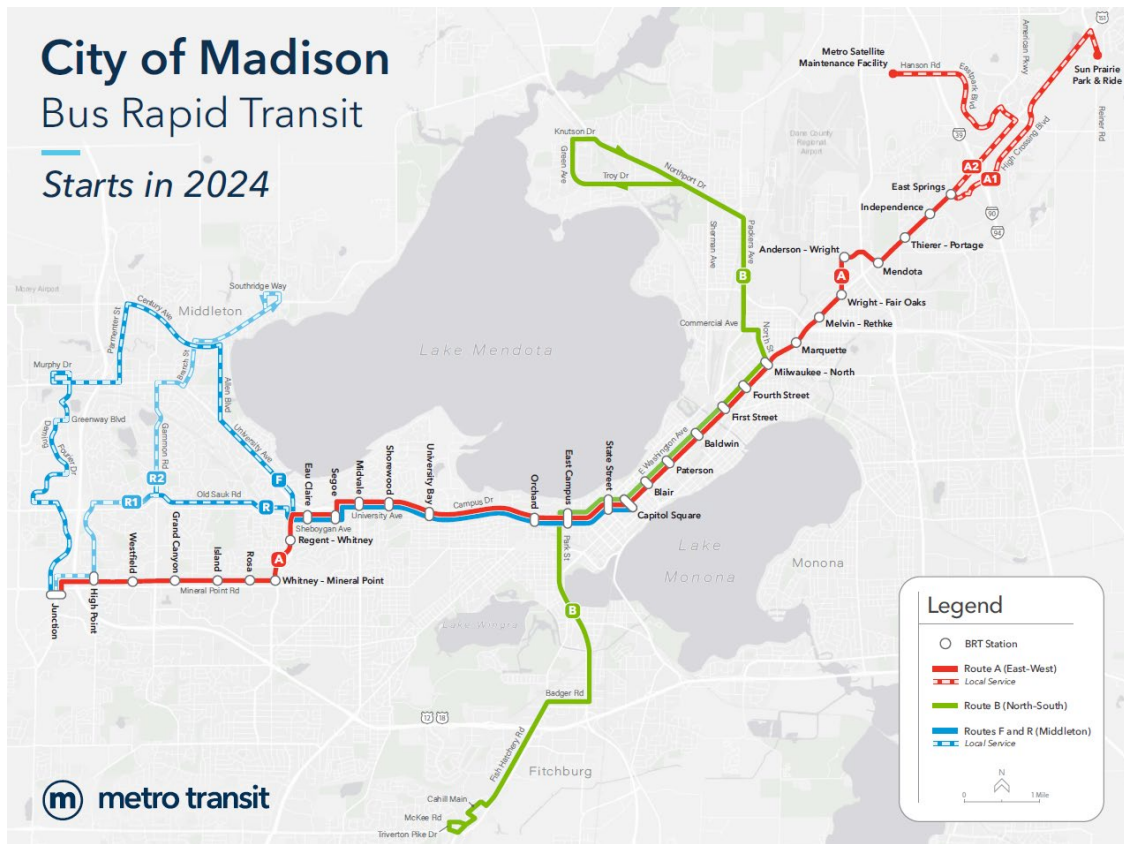
Figure 2.5 shows the conceptual passenger rail network planned throughout Wisconsin. The service can generally be divided into the TCMC corridor (shown in green) which includes the long-distance Empire Builder route, and the Hiawatha Service with planned extensions (shown in blue). While train frequencies may improve over the years, Madison is expected to continue to be a terminal station for some trains originating in Chicago – a branch of the Hiawatha Service – as opposed to a deviation of the TCMC route between Chicago and Minneapolis/St. Paul.

Madison Bus Rapid Transit System

The City of Madison is building a bus rapid transit (BRT) system that primarily consists of two lines, known as “East-West BRT” (E-W BRT) and “North-South BRT” (N-S BRT). E-W BRT is under construction as of late 2023 and is anticipated to open for revenue service at the end of 2024. N-S BRT is in the planning phase and could open between 2027 and 2030, dependent on Federal funding. Figure 2.6 shows the planned BRT system. The route for the N-S BRT has been identified; however, individual station locations are still under consideration and, therefore, not shown in this report. E-W BRT and N-S BRT are described as Routes A and B in Metro Transit’s system, while Routes F and R will also use the corridor and enhance the frequency and reach of the BRT network. Improvements will consist of bus-only lanes over about half of each corridor, new electric buses, and stations with raised platforms, enhanced shelters, and other amenities.

Access to the BRT lines is desirable for the planned intercity passenger rail line so that people can begin or continue their journey in a timely fashion without waiting a long time. While access to both lines is preferred, almost all possible station locations are located near at least one BRT line.

Figure 2.6: Madison BRT System Map



Previous Passenger Rail Planning Efforts

Several past planning efforts looked at bringing passenger rail to Madison. These include the planned higher speed rail project between Chicago, Milwaukee, and Madison around 2010, the Transport 2020 commuter rail initiative in the early 2000s, and prior efforts. This planning effort has referenced some of this work to help identify possible station locations, but conclusions from those plans have not been carried through to this study.

3. Study Evaluation Process

Figure 3.1 shows the study evaluation process that was used to review station alternatives and identify a recommended location for Madison. Public input was sought at key study milestones. The process began with gathering data, reviewing prior plans, establishing the station program elements (see Section 4), identifying study objectives, and evaluation criteria that address the objectives.

Figure 3.1: Passenger Rail Feasibility and Station Identification Study Process



Station Location Identification Objectives

This study aims to evaluate how well the identified station corridors and potential site locations, respectively, meet the following objectives for a passenger rail station.

1. Station Corridor Objectives

The study identified six station corridors, which are general station location areas along railroads in Madison, with one or more sites that could accommodate a station. The study evaluated the station corridor options in Section 5 of this report using the following objectives for the station location (listed in no particular order):

- a) Accessible to a many people, jobs, and destinations
- b) Minimizes railroad operational issues
- c) Accessible via multiple modes of transportation—prioritizing walking, biking, and public transit
- d) Existing and planned surrounding land use is compatible with a passenger rail station
- e) Equitably accessible to low-income households and people of color

2. Station Site Objectives

The station corridor evaluation in Section 6 identified the most suitable corridor options based on how well they met the above objectives. Following that evaluation, specific site locations within the remaining corridors were evaluated based on the objectives above as well as the following site-level objectives for the station location:

- a) Minimizes railroad operational issues
- b) Allows for an adequately sized platform and station building along existing tracks
- c) Feasible to acquire or control the station site
- d) Minimizes known environmental hazards
- e) Accessible to many people, jobs, and destinations
- f) Compatible with surrounding existing and/or planned land uses
- g) Equitably accessible to low-income households, people of color, and other underserved populations
- h) Catalyst for economic development


Evaluation Rating and Criteria for Screening

Evaluation criteria were developed based on the objectives listed above. Table 3.1 outlines the evaluation criteria used for station corridors and Table 3.2 outlines criteria used for station sites. Both the station corridor and station site evaluations include a description of the evaluation of each criteria and conclude with a summary and evaluation rating table that uses a to describe how well each location meets the evaluation criteria based on the objectives for the study. For the station area corridors, a color-based icon is used to indicate whether the corridor rates “good,” “fair,” or “poor” relative to other corridors under consideration. For the station sites, a 5 point rating system is used to score evaluations with a score of 0 meaning that the corridor does not meet the criterion at all, and a score of 5 meaning the corridor meets that criterion exceptionally well.

Figure 3.2 visually describes the rating system used in this analysis.

Figure 3.2: Evaluating Rating Examples

Corridor Evaluations

Good	Fair	Poor
		

Site Evaluations

Does not meet criteria	Meets criteria poorly	Meets criteria with challenges	Meets criteria moderately	Meets criteria well	Meets criteria exceptionally well
○ ○ ○ ○ ○	● ○ ○ ○ ○	● ● ○ ○ ○	● ● ● ○ ○	● ● ● ● ○	● ● ● ● ●

Table 3.1: Evaluation Criteria for Station Corridors

Criteria	Description	Corridor Criteria	Site Criteria
Train Access and Rail Operations	Are there any potential railroad operational issues? Consideration should be given to whether the train needs to be reversed, the development of a passenger rail siding, and the need for train servicing on or off site.	✓	✓
Site Size and Configuration	Does the site accommodate the station program elements? Variables that would increase costs such as environmental contamination, etc.?		✓
Site Ownership and Control	Who currently owns the site? Is it feasible to own, lease, or otherwise control the station portion of the site?		✓
Proximity to People, Jobs, and Destinations	How many people, jobs, and other destinations are within a reasonable walk, bike, or transit trip?	✓	✓
Equitable Access	General proximity to areas with large numbers of low-income households and people of color and/or convenient access by transit, walking, and biking.	✓	✓
Access and Multimodal Connectivity	Corridor/site should facilitate easy connections to other modes of transportation within Madison, i.e., proximity to bus rapid transit (BRT), local bus transit, intercity bus access, pedestrian and bicyclist facilities, automobile access.	✓	✓
Environmental Resources	Will development of a station on the site be likely to impact any natural, historic, or cultural resources?		✓
Land Use and Development	Local plan compatibility, existing or planned building scale, equitable access and development, neighborhood compatibility, and potential to spur economic development including transit oriented development should be considered.	✓	✓

Public and Stakeholder Engagement

The goals of public engagement for this study are to:

1. Provide clear and transparent information regarding the study and the decision making process
2. Ensure that the recommended station location considers input from the public as well as key project stakeholders including elected officials, community organizations, businesses, local transportation officials, neighbors, and other interested parties
3. Share information with the public and stakeholders regarding how feedback was considered and incorporated into the study and recommendations
4. Ensure that public engagement efforts and materials are inclusive—allowing full participation by any member of the public regardless of income, race, spoken language, ability, age, gender or sexual orientation
5. Meet all necessary Federal requirements to apply for funding opportunities to support the project

The project team used a variety of strategies and tools to engage the public and stakeholders, with a series of public meetings being the primary touch point between the study team and the public. A series of ongoing public meetings, provided a primary touch point between the study team and the public.

A Language Access Plan for this study is provided in Appendix A of this report and describes how the project team will ensure the public involvement process is inclusive and accessible for those who speak a language other than English.

Public Involvement Meeting 1

In December 2022, an in-person and a virtual public meeting were held to inform the public about the Study’s activities and its timeline. Approximately 300 people attended the in-person meeting and more than 800 attended the virtual meeting. The study team presented the station corridors and the preliminary evaluation criteria, and collected feedback to inform the next phases of the Study process. Most participants were overall supportive of passenger rail coming to Madison. The city received several comments in support of various corridors for an Amtrak station with the largest number of comments expressing support for either the downtown or Oscar Mayer corridors.

Public Involvement Meeting 2

The station corridor evaluation and potential station sites were presented with preliminary evaluation to the public in February 2024 to obtain feedback.

[Additional information to be added.]

Public Involvement Meeting 3

A future public meeting for this study is planned to share the final station site analysis and the recommended station site(s).

[Additional information to be added with a Public Involvement Summary provided as an appendix.]

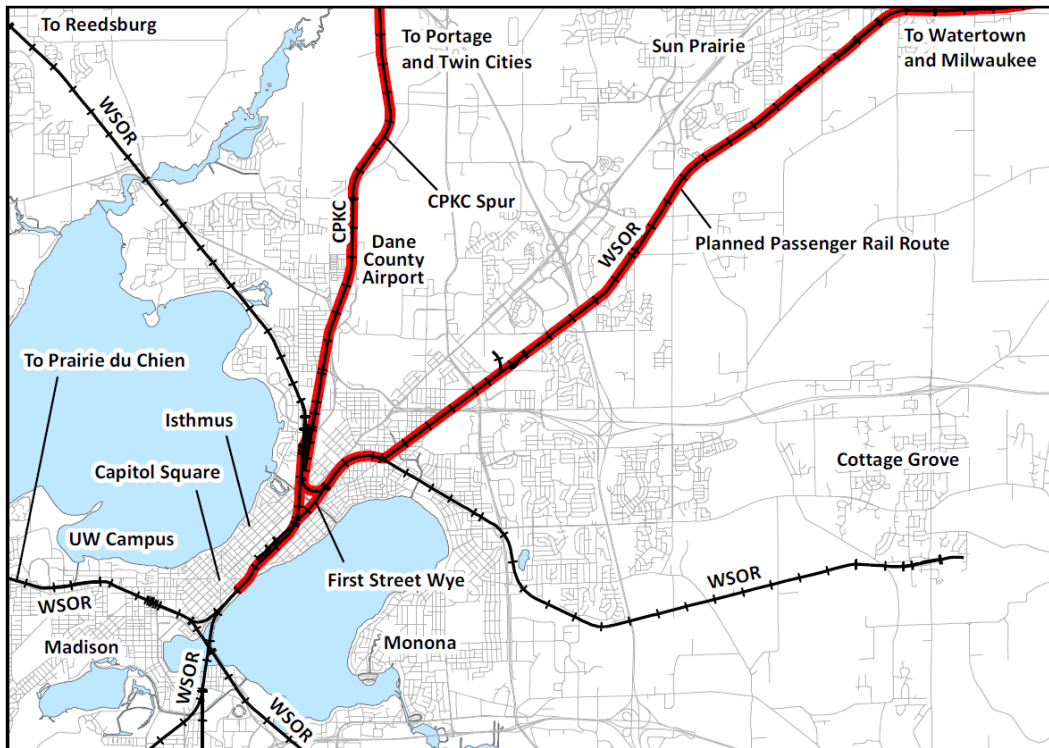
4. Station Program Elements

This section describes the assumptions related to station program elements used to evaluation station options for this study, including rail service and ridership assumptions; the type of trains, or rolling stock, that would likely service the route; and station features. As WisDOT and its partners (including the City of Madison) continue developing the service program for the Milwaukee-Madison-Eau Claire-Twin Cities extension of the Hiawatha as part of the Corridor ID program, more specific service elements will be defined.

Rail Service and Ridership Assumptions

As presented in WisDOT’s application for admittance into the Corridor ID program, this Hiawatha extension is expected to be implemented in phases, with one of the early phases being the extension from Milwaukee to Madison along the CPKC and WSOR rail lines. This study anticipates service will begin with three to four round trips between Milwaukee and Madison. One or more trains could later continue from Madison to Minneapolis/St. Paul using the CPKC spur. This extension would supplement other trains on the TCMC route between Chicago, Milwaukee, and Minneapolis/St. Paul. Figure 4.1 shows a map of rail segments included in this study with ownership information.

Figure 4.1: Rail Segments Included in this Study



The Corridor ID Study, led by WisDOT in coordination with Amtrak, will provide ridership estimates for the corridor. Based on preliminary information and similar service levels in other cities, the station program assumes the Madison station may need to accommodate up to 250,000 riders per year, or up to 900 per day.

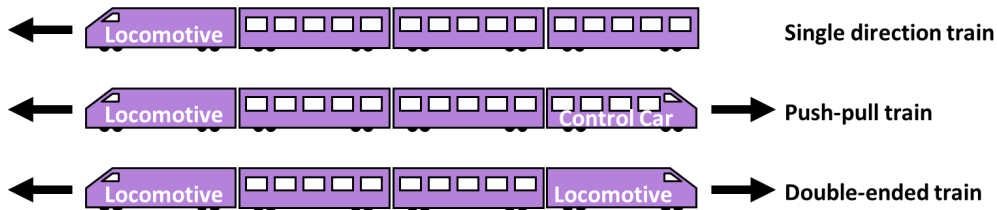
Rolling Stock (Trains)

Modern Siemens Venture passenger cars (with a 48-inch floor height), hauled by Siemens Charger locomotives are expected to serve the station. All trains would be less than 700 feet long. Long-distance Amtrak equipment, such as the Superliner or Viewliner cars, would not serve the station. With the lack of low-floor equipment, it may be possible to

provide high-level platforms and level boarding in Madison. This feature greatly improves the accessibility of the service by avoiding the use of complex and time-consuming lift equipment.

The trains on the Hiawatha Service are “push-pull” trains. They have a locomotive on one end and a control car on the other and can be driven in either direction with the locomotive at either the front or rear of the train. This avoids having to use a wye or loop at the end of the line to reorient the train so that the locomotive is at the front. Future trains are expected to maintain this ability by either being push-pull trains or double-ended trains with a locomotive on each end. A graphic visualizing train types is shown in [Figure 4.1](#).

Figure 4.2: Train Types



The power source for the trains has not yet been determined, but the assumption is that the trains will use diesel locomotives.

Platforms and Accessibility

Platforms are the part of a station where people enter and exit the train. Most Amtrak platforms are “low-level” platforms 8 inches above top of rail. This platform height is designed to avoid damage from passing freight trains that are typically wider than passenger trains and slightly overhang the platform edge. The main disadvantage of the low-level platform is that it is not accessible to people in wheelchairs since the floor height of most passenger trains is about 48 inches. Most passengers use steps to enter and exit the train while wheelchair users are accommodated with mechanical lifts. However, using the lift is time consuming, inconvenient, and forces wheelchair users to request special assistance, which is not consistent with the spirit of accessible design.

The alternative to the low-level platform is a “high-level” platform that is about 48 inches above top of rail and even with the floor of the train. High-level platforms are standard on modern passenger rail systems in Europe and Asia, as well as at many stations on Amtrak’s Northeast Corridor. The main challenge with high-level platforms is that they interfere with freight trains and require a dedicated passenger rail parallel track to allow freight trains to pass.

High-Level Platform



Image Source: Railway Age

Low-Level Platform



Image Source: Progress Index

Amtrak’s desired platform length is 700 feet. This length will accommodate the entire length of any train expected to serve the Madison station and all doors of the train will open. Platforms shorter than the full length of the train are serviceable,

but they are not desired. If the entire train cannot be served, some doors will not open at the station. This means that people getting off who are sitting in cars not served by the station will need to walk between cars until they arrive at a car whose doors have opened. Conductors usually need to go through the train to make sure nobody is waiting at a door that will not open. This situation is not uncommon on the Amtrak network, but it is not desirable because it causes delay and confusion, some cars become underutilized, and some passengers may miss their stop.

Platforms should be straight from end to end and have no curvature. Curved platforms serving straight cars creates the undesirable situation where the middle of the train car is hanging over the platform and the ends are far away from it (or vice versa). Curved platforms create accessibility issues, especially for high-level platforms. In some cases, a small amount of curvature may be approved.

Continuing from Madison to Minneapolis/St. Paul

When the future extension to Minneapolis/St. Paul is implemented, trains would need to divert off the main CPKC tracks at Watertown and come into Madison using WSOR tracks, where some trains would end. Trains continuing to Minneapolis/St. Paul, however, would then travel north along the CPKC spur track to rejoin the main CPKC tracks in Portage. If a station is located north or east of the wye near First Street, these trains could travel directly from the WSOR tracks to the CPKC spur by essentially making a “U-turn” in Madison. However, if the station were located south or west of the First Street wye, continuing trains would need to either reverse directions or back up to the wye. Trains would make take opposite path in the opposite direction.

Reversing directions

Since the trains are expected to be push-pull or double-ended trains that can operate in either direction, the most expedient way for trains continuing to Minneapolis/St. Paul would most likely be to reverse the train. To do this, the engineer needs to walk from one end of the train to the other, and then perform a series of tasks including setting the positive train control and performing a brake test. Staff estimates that this process takes about 10 minutes based on research and the timetables for similar routes. Crews typically reverse the train as passengers board and alight, often resulting in minimal additional dwell time.

Normally, trains reverse at the end of the line when the train is out of service. However, three Amtrak routes regularly reverse direction in the middle of a route, those being the Keystone Service (reversing in Philadelphia), Pacific Surfliner (reversing in Los Angeles), and Ethan Allen Express (reversing in Rutland, VT), in addition to the seasonal Berkshire Flyer (reversing in Albany) and other examples outside the Amtrak network.

Backing up

An alternative to reversing a train in route is to back it up. This procedure involves driving the train backwards from the locomotive. To do this safely, a conductor stands at the back window of the last passenger car and radios commands to the engineer who is in the locomotive. Backing is slow and tedious, and while several Amtrak routes do back up to enter and exit stations (examples being in Seattle, Denver, Grand Rapids, and Tampa), a station location that can avoid backing up will save a significant amount of delay compared to reversing a train.

Backing the train is not seen as a desirable part of the through route between Milwaukee, Madison, and Minneapolis/St. Paul, and reversing directions is generally considered to be a faster and more streamlined alternative.

Station Elements

The Madison station will be designed to meet the needs of a modern intercity passenger rail service that will include an enclosed station building, platform, access to parking, and convenient connections to multimodal transportation services. All components of the station will comply with the Americans with Disabilities Act (ADA). Station programming is based on potential service levels outlined in the Amtrak Connects US Plan, the Amtrak Station Planning and Development Guidelines, input from Amtrak representatives, and desired features defined by local stakeholders.

The program for the Madison station is planned as an Amtrak “Category 2 – Medium” station. This category is typically used for stations along state-supported Amtrak routes that serve between 100,000 and 400,000 annual passengers and is common in city center and suburban locations.

Platform and railroad requirements for the station include a desired full-length platform to accommodate the length of the train and an overhead canopy for weather protection. The enclosed station building for a medium station includes a waiting area, an Amtrak-staffed customer service and ticket desk, and restrooms. Baggage service is not anticipated to be included as is typical on the shorter routes.

Transportation and access circulation needs identified for the Madison station include long-term and short-term parking and a passenger drop-offs and Pick ups. Intercity buses are intended to stop at the station as well, providing continuing service as well as additional frequency to Milwaukee, Chicago, and Minneapolis/St. Paul.

Since the Madison station would be a terminal station, train servicing and layover service facilities will need to be included at the station site or nearby. These facilities include potential crew accommodations, light servicing and cleaning, overnight train storage, and service truck access.

The station will also include safety and security features and will use opportunities for sustainable building practices. It may be possible to combine passenger rail station elements with mixed-use development such as retail, office, or residential.

Example of an Amtrak Category 2 – Medium Station



City of Fort Madison, IA; Photo by Mark Boussetot via Amtrak

Table 4.2: Preliminary Program Assumptions

Elements	Space Requirements
Station type	Amtrak medium, terminal
Platform	700 feet long desired
Waiting area	1,300 square feet
Total building area*	3,200 square feet (waiting area, ticketing, circulation, storage, and mechanical)
Parking spaces	Up to 200 spaces
Layover and servicing	Crew accommodations, light servicing, overnight train storage, and service truck access

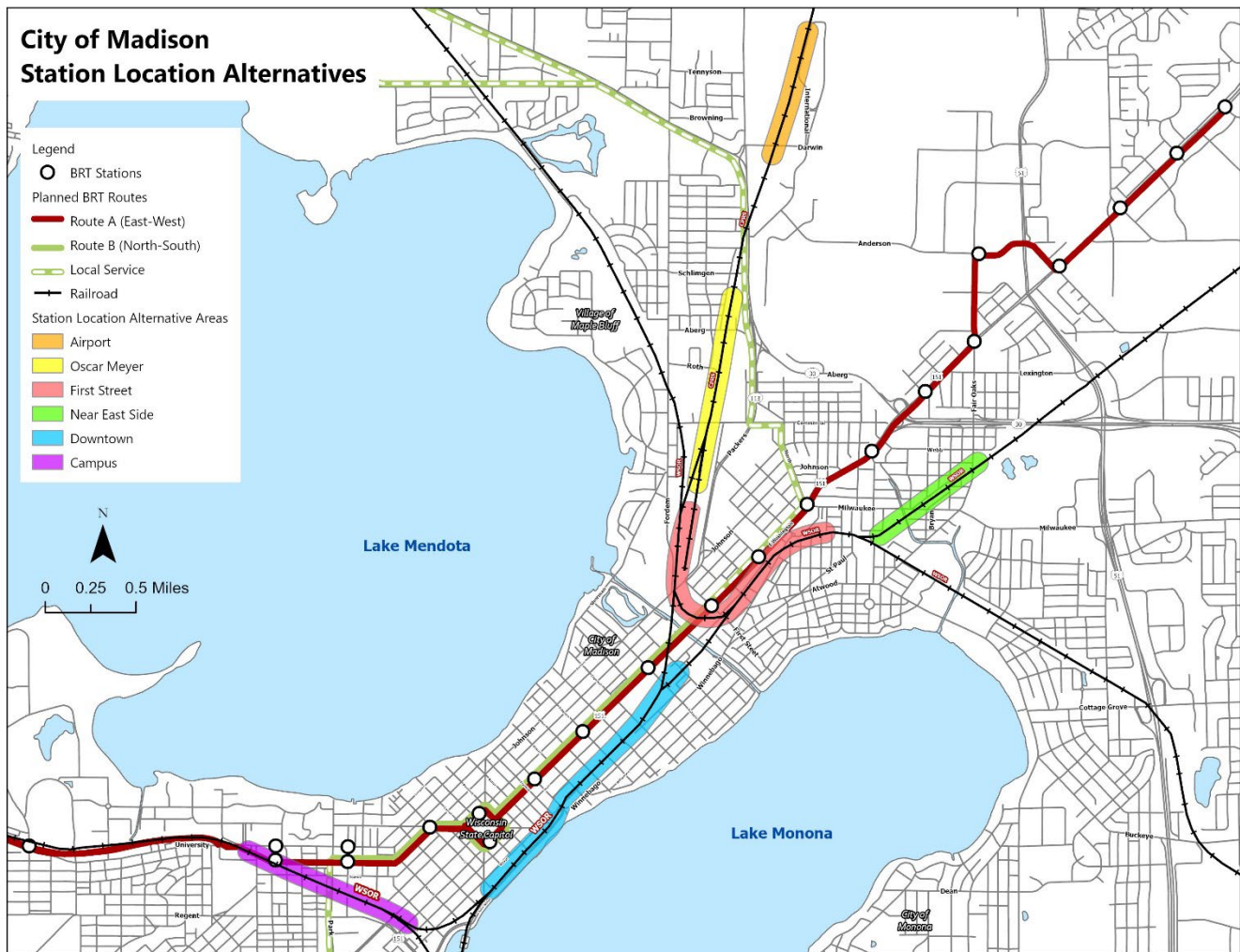
5. Station Corridor Alternatives Analysis

The study reviewed six corridors as potential passenger rail station locations in Madison.

This section provides a description of each corridor, a map illustrating the corridor and its amenities, an analysis on how each of the evaluation criteria pertain to the corridor, and a summary highlighting the opportunities and challenges of a station located within the corridor. As illustrated in Figure 5.1, the six station corridors that were evaluated are:

1. Campus
2. Downtown / Isthmus
3. East Side
4. First Street
5. Oscar Mayer
6. Airport

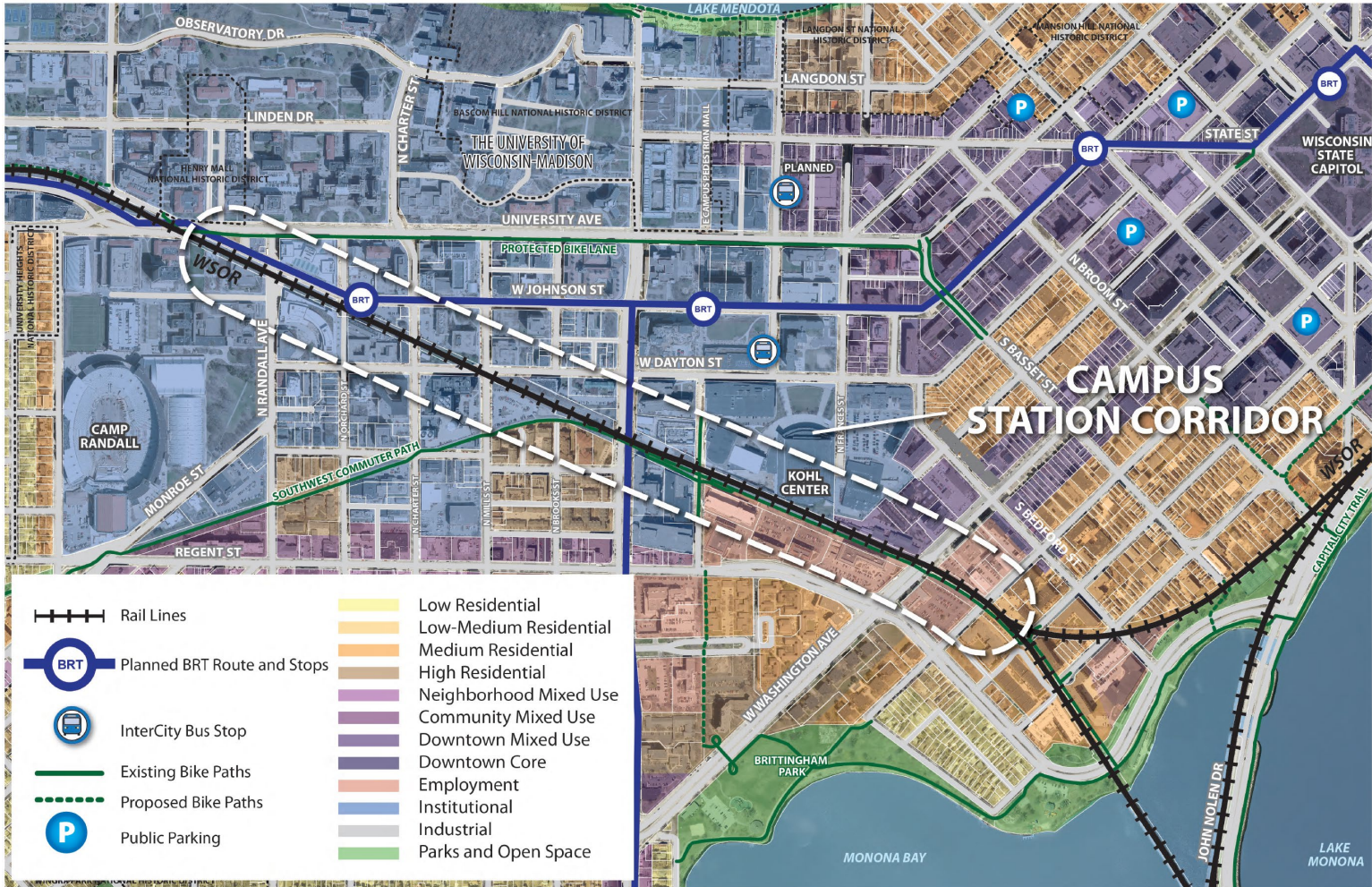
Figure 5.1: Passenger Rail Station Corridor Alternatives



Campus Corridor

The Campus Corridor lies just west of downtown Madison between West Washington Avenue and Breese Terrace. The corridor was evaluated because of its location being walkable to both the downtown area as well as the UW Campus. Intercity buses currently stop in this area on Lake Street due to the high demand for intercity transit service centered on the UW campus area.

Figure 5.2: Campus Corridor



Evaluation

Rail Operations

Routing to a station in this corridor would be along both the WSOR tracks towards Watertown and continuing through the isthmus and around towards the WSOR Prairie du Chien route. Passenger and freight train conflicts would be slightly higher on the stretch of tracks through the isthmus because this track is used by WSOR on their Prairie du Chien, South Madison, and Stoughton routes, as well as for trains to Janesville and Chicago. The estimated train volume on this stretch is six trains per day, which is well below typical train volumes on the Class 1 rail networks that host most Amtrak routes. In addition WSOR trains are typically shorter than trains found on Class 1 railroads and the shared stretch is only about two miles, so freight and passenger train conflicts are still anticipated to be low.

Straight track is available for a 700 foot platform along most of the length of the corridor. However, the frequent street crossings between Mills Street and University Avenue would interrupt the platform. Full length platforms could, however, be built without affecting street crossings between West Washington Avenue and Mills Street. Several railroad sidings exist in this area and some mitigation may be necessary if they were affected.

Trains continuing to Minneapolis/St. Paul would need to reverse direction at the station. This process is expected to take approximately 10 minutes, but passengers would be boarding and exiting during some of that time. Trains would backtrack about three miles back to the First Street wye. Leaving a Campus Corridor station, these trains continuing to Minneapolis/St. Paul would need to connect to the CPKC spur. This would currently be accomplished by using the track connections in WSOR's yard, but several alternatives could be explored to reduce passenger and freight train conflicts.

Train speeds through the isthmus would not be high speed, they would be consistent with vehicle speeds on east-west arterials running through the isthmus.

Access and Multimodal Connectivity

A station in the Campus Corridor would be conveniently located for people living in the downtown and campus area, but would also be centrally located for people accessing the station from the north, east, south and west sides. The station would draw ridership from the dense walkable area surrounding the station. It would be a relatively short walk to a BRT station where people could access both the E-W and N-S BRT lines. The site would also be accessible to most other local routes in the Metro Transit system making it very convenient and supportive of using transit to access the station.

People driving to the station may find the corridor challenging. There are very few parking opportunities in the area. The land is essentially built out and demand for parking near the UW campus is very high. A station built in this corridor may not include long term parking for Amtrak customers.

The corridor has relatively poor vehicle access from major highways. It is primarily served by University Avenue, Campus Drive, and Park Street. These corridors are heavily saturated and prone to delays. Attracting additional auto traffic to the UW campus area is not desirable.

Visitors to Madison would be well served by a station in this corridor. Many regional destinations are within a reasonable walking distance of most of the corridor. If people are using other modes to continue their journey, they will find many options including BRT, bike share, and taxis.

The Campus Corridor would require all trains serving Madison to cross Blair Street, Broom Street, and West Washington Avenue, lowering the gates and causing delays to traffic on these corridors. However, these impacts would not affect either BRT line.

Land Use and Development

The land uses and opportunities for redevelopment around the Campus Corridor are extremely compatible with a passenger rail station. The area is predominantly built out with typical central business district and campus character, including UW campus buildings, restaurants, and high density housing. Possible sites on the Campus Corridor are about one mile from downtown destinations and hotels.

Ridership Potential

This corridor is centrally located and convenient for most Madison residents and visitors and is expected to attract the highest levels of ridership. This fact is evident from the clear and conscious choice of intercity bus operators to locate their Madison stops in this area.

Equitable Access

The corridor is highly accessible to low-income communities because it lies near the core of the Metro Transit network. The site is relatively accessible to people who do not have access to cars with access to both E-W and N-S BRT as well as many local bus routes.






Summary and Rating

A station in this corridor is central to most people in Madison, provides direct access to the core of the region’s economy and attractions, and produces higher ridership than more peripheral corridors.

There are challenges with a campus area sites. Parking would be difficult or impossible to provide at the station, and the trains that continue to Minneapolis/St. Paul would have to travel three miles out of direction both ways. Providing parking at the station is not strictly necessary, but not providing it does limit some people’s access to the station and limits ridership. In this case, the increased access for people living in the campus area, many of whom do not own cars, most likely overshadows the ridership limitations of not providing long term parking.

Due to the corridor’s densely developed character, it would likely be difficult to find a site that could accommodate all the desired station elements and support potential future expansion.

Figure 5.3: Campus Corridor Evaluation Rating

Rail Operations	Proximity to People, Jobs, Destinations	Equitable Access	Access and Multimodal Connectivity	Land Use and Development
				

Downtown / Isthmus Corridor

The Downtown / Isthmus Corridor lies at the center of Madison near the Capitol Square and extends to the northeast through the isthmus between Lakes Monona and Mendota. The corridor was evaluated because of its location being walkable to the downtown area and its economic and cultural opportunities.

Figure 5.4: Downtown / Isthmus Corridor



Evaluation

Rail Operations

Routing to a station in this corridor would be along both the WSOR tracks towards Watertown and continuing through the isthmus. Passenger and freight train conflicts would be slightly higher on the stretch of tracks through the isthmus because this track is used by WSOR on their Prairie du Chien, South Madison, and Stoughton routes, as well as for trains to Janesville and Chicago. The estimated train volume on this stretch is six trains per day. This volume is below typical train volumes on the Class 1 rail networks that host most Amtrak routes which can see 20-30 trains per day on a single track line, and more than twice as many on a double track line. WSOR trains can be shorter than trains found on Class 1 railroads. The shared stretch is about two miles, and freight and passenger train conflicts are still anticipated to be low.

Straight track is available for a 700 foot platform along most of the length of the corridor. However, the frequent street crossings east of Blair Street every 660 feet would interrupt the platform. Several options would be possible to provide a platform on the isthmus if this location were chosen. A shorter platform could be used with the train blocking the intersection as is used throughout the Amtrak network and on commuter rail systems. To provide a full 700 foot long platform, one of the lower volume crossings could be closed or a crossing could be grade separated.

Trains continuing to Minneapolis/St. Paul would need to reverse direction at the station. This process is expected to take approximately 10 minutes, with passengers boarding and exiting during some of that time. Leaving a Downtown / Isthmus Corridor station, these trains continuing to Minneapolis/St. Paul would need to connect to the CPKC spur. This would currently be accomplished by using the track connections in WSOR's yard, but several alternatives could be explored to reduce passenger and freight train conflicts.

Train speeds through the isthmus would not be high speed, they would be consistent with vehicle speeds on east-west arterials running through the isthmus.

Access and Multimodal Connectivity

A station in the Downtown / Isthmus Corridor would be conveniently located for people living in the downtown area, but would also be centrally located for people accessing the station from the north, east, south and west sides. The station would draw ridership from the walkable area surrounding the station. It would be a relatively short walk to a BRT station where people could access both the E-W and N-S BRT lines. The site would also be accessible to most other local routes in the Metro Transit system making it very convenient and supportive of using transit to access the station.

People driving to the station would be served by either new parking facilities constructed at the station or using existing parking garages. There are many parking garages near the Capitol Square but these garages may not have the available parking spaces necessary to be used by Amtrak passengers. In addition, the parking rates at these garages are not supportive of long-term parking. East of Blair Street, the city's Livingston Street garage may in the future have unused capacity. Some long-term Amtrak parking could be explored. Several possible redevelopment sites also exist east of Blair Street. If these sites were to redevelop and include an Amtrak station, it may be possible to include structured parking in the project.

The corridor has good vehicle access from major highways like John Nolen Drive, Blair Street, Williamson Street, and East Washington Avenue. The street grid east of Blair Street makes it fairly easy for people driving to get to the station. However, west of Blair Street, some passengers would find the one-way streets and frequent traffic signals confusing and cumbersome.

Visitors to Madison would be well served by a station in this corridor. Many regional destinations are within a reasonable walking distance of most of the corridor. If people are using other modes to continue their journey, they will find many options including BRT, bike share, and taxis.

The Downtown / Isthmus Corridor could cause all trains serving Madison to cross Blair Street if the station were west of Blair Street, but no major streets if the station were east of Blair Street. A station in this area would have minimal traffic impacts on regional roads and no impact on the BRT system.

Land Use and Development

The land uses and opportunities for redevelopment around the Downtown / Isthmus Corridor are compatible with a passenger rail station.

The area near the Capitol Square west of Blair Street is predominantly built out with typical central business district character. There is a wide variety of government offices, restaurants, offices, hotels, and high density residential.

The area on the isthmus east of Blair Street also has urban and supportive land uses. Sites closer to Blair Street would be walkable to most of the downtown business core. Some blocks along the rail line are likely to redevelop soon and could be dense, mixed use developments support of intercity passenger rail service. The isthmus historically was an industrial area but since the early 2000s has densified. Its revival is guided by the Capitol Gateway Corridor Plan. Possible sites on the isthmus are between a few blocks and one mile from downtown destinations and hotels.

Ridership Potential

This corridor is centrally located and convenient for most Madison residents and visitors and is expected to attract high levels of ridership.

Equitable Access

The corridor is highly accessible to low-income communities because it lies near the core of the Metro Transit network. The site is relatively accessible to people who do not have access to cars with access to both E-W and N-S BRT as well as many local bus routes, particularly if located within walking distance of the Capitol Square.

Summary and Rating

A station in this corridor would be central to many people in Madison, provide direct access to the core of the region's economy and attractions, and produce higher ridership than more peripheral corridors. A downtown or isthmus area station could have lower traffic impacts than other corridors because trains ending in Madison would not cross East Washington Avenue.

There are challenges with a downtown area site. Sites west of Blair Street would be difficult to people in cars to access and park long term. Sites east of Blair Street are slightly farther from downtown attractions, but could provide easier auto access, avoiding some of the complications that may arise by building a station near the Monona Terrace.

One challenge with the area east of Blair Street, however, is the frequent street crossings. Street crossings provide valuable circulation for neighborhoods. The crossing density on the isthmus is greater than in most of Madison. The trade-offs between neighborhood connectivity and railroad crossing safety, and the challenges and opportunities surrounding each crossing in this area are complex. There are several alternatives to closing a crossing and there are several mechanisms for building a serviceable station in this corridor without closing any crossing.

During the previous planning work to identify a Madison station location between 2008 and 2010, the Monona Terrace area within this corridor west of Blair Street was the selected alternative. The concept of a downtown passenger rail station was endorsed again in 2012 in the City of Madison's Downtown Plan.

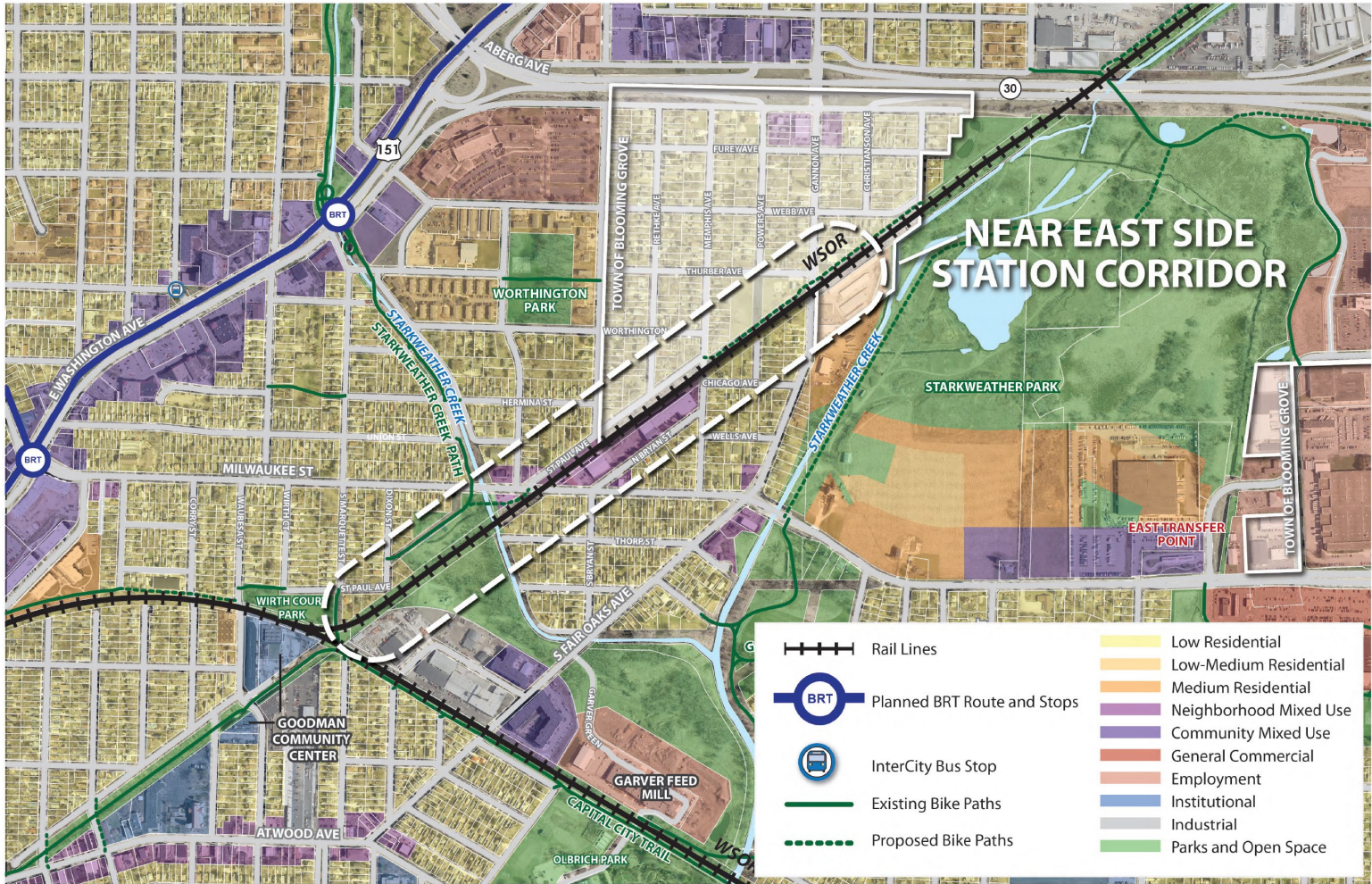
Figure 5.5: Downtown / Isthmus Corridor Evaluation Rating

Rail Operations	Proximity to People, Jobs, Destinations	Equitable Access	Access and Multimodal Connectivity	Land Use and Development
-	+	+	+	+

East Side Corridor

The East Side Corridor surrounds on the WSOR Watertown line between Milwaukee Street and Fair Oaks Avenue. The corridor was evaluated because of its straight track and its potentially low implementation cost since the location avoids any complicated rail and street improvements in the isthmus.

Figure 5.6: East Corridor



Evaluation

Rail Operations

Routing to a station in this corridor would be along the WSOR tracks towards Watertown. Overall passenger and freight train conflicts would be minimal in this corridor due to the low volume of freight traffic on this line. Passenger trains ending in Madison would not conflict with WSOR trains on any lines besides the Watertown line. Some freight rail sidings exist in this area but could be avoided.

Straight track is available for a 700-foot platform. Platform placement could be adjacent to active freight tracks with a low-level platform or on a parallel track with a high-level platform. For trains continuing to Minneapolis/St. Paul, an additional track would be needed along the east leg of the First Street wye connecting the WSOR and CPKC tracks and reestablishing a third track crossing Johnson Street. This additional crossing may cause impacts to the crossing and adjacent closely spaced traffic signals.

Access and Multimodal Connectivity

A station in the East Side Corridor could be less convenient for many Madison residents, other than people living on the east side who happen to live close to the station. A station in this corridor would not be served by either BRT line; transit service would be at best be provided by Route D1 with service every 30 to 60 minutes. Some locations along the corridor near Fair Oaks Avenue are essentially unserved by transit.

Parking would be included with the station. However, most Madison residents would need to drive out of direction to reach the station. The location does not have good vehicle access from major highways; people would use local arterial streets like Milwaukee Street and Fair Oaks Avenue.

Visitors to Madison and Madison residents accessing the station by foot or bike would be poorly served by the station. Very few destinations are within a reasonable walking distance. Most visitors to Madison using this station would most likely be picked up at the station or use private transportation services to reach their destinations. Since intercity buses provide essentially the same service to downtown Madison, many prospective train riders would continue to use the bus or drive.

The East Side Corridor would not cause any crossings of major streets that would lowering the gates and cause traffic delays beyond crossings that would occur with any station corridor.

Land Use and Development

Compatible land uses and opportunities for redevelopment around the East Side Corridor are minimal. Adjacent land uses are almost exclusively single-family residential. The corridor does not have many restaurants, retail, or entertainment destinations and is approximately three miles from downtown destinations and hotels.

Ridership Potential

This corridor is far from most Madison residents and most potential riders to Milwaukee or Chicago would be better served by using existing intercity buses or driving to the outer reaches of the Metra commuter rail system.

The relative ridership potential is low compared to the other corridors.

Equitable Access

The corridor is inequitably accessible since it is primarily serves people coming to the station by car. The corridor is not adjacent to low-income neighborhoods and transit access to the corridor is relatively poor.

Summary and Rating

The reasons to locate a station in this corridor are mainly to build a low-cost station to reduce overall project scope, complexity, and cost.

A station located in the East Side Corridor would result in long overall travel times since the corridor is not located near a large number of people, jobs, or other destinations, and those people would have to other modes to continue their trips.

The corridor fails to meet the city’s goals of prioritizing non-motorized trips to and from the station. An East Side Corridor would not connect regional travelers to economic and cultural assets in Madison.

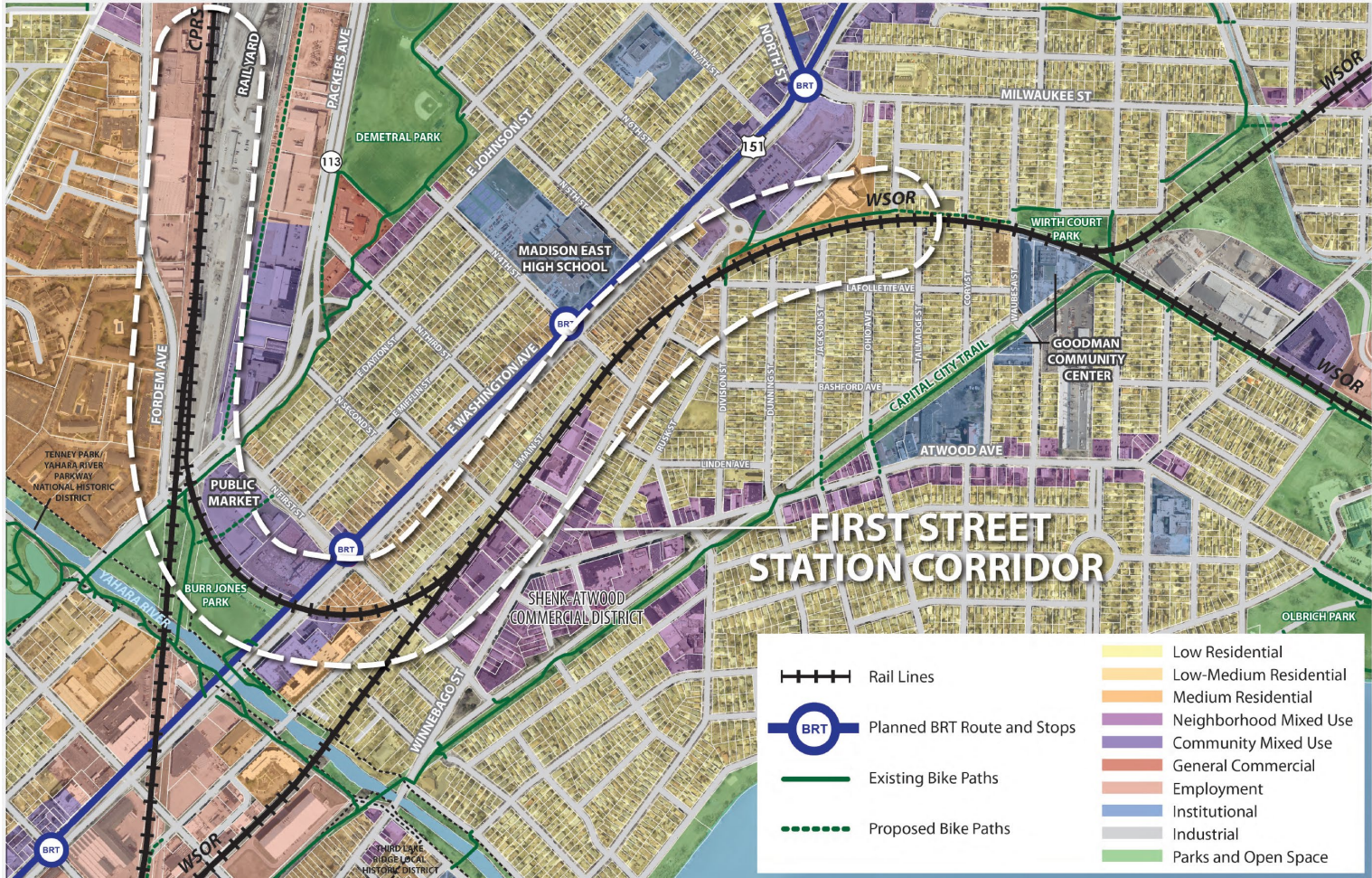
Figure 5.7: East Side Corridor Evaluation Rating

Rail Operations	Proximity to People, Jobs, Destinations	Equitable Access	Access and Multimodal Connectivity	Land Use and Development
+	×	×	×	×

First Street Corridor

This First Street Corridor lies just east of the Yahara River crossing the northeast end of Madison’s isthmus. The section of track consists of the curve between East Washington Avenue and Johnson Street on the east leg of the First Street Wye, as well as the straight track adjacent to Winnebago Street and part of the CPKC spur just north of Johnson Street and west of Pennsylvania Avenue. The corridor was evaluated because of its proximity to downtown and the ability to continue service to Minneapolis/St. Paul without reversing the train.

Figure 5.8: First Street Corridor



Evaluation

Rail Operations

Routing to a station in this corridor would be along the WSOR tracks towards Watertown. Depending on where the station actually is within the corridor, the route could also use the curved part of the First Street wye and part of the CPKC spur. Overall passenger and freight train conflicts would be minimal in this corridor due to the low volume of freight traffic on both tracks.

Straight track is available for a 700-foot platform on the straight sections of track north of Johnson Street and east of First Street, but the curved section of track is problematic. Because of the curve and railroad wye, platform placement would be on separate parallel track with a high-level platform. If the platform were located on the curved section of track between East Washington Avenue and Johnson Street, a straight section on the curved parallel passenger rail track would allow for a platform, but the platform would be shorter than the desired 700 feet in length.

An additional track would be needed along the east leg of the First Street wye connecting the WSOR and CPKC tracks and reestablishing a third track crossing Johnson Street. This additional crossing may cause impacts to the crossing and adjacent closely spaced traffic signals.

Access and Multimodal Connectivity

A station in the First Street Corridor would be more convenient for Madison residents on the east side, and more accessible to downtown and isthmus residents compared to corridors that are farther north. A station would be a relatively easy walk to the First Street BRT station where people could access both the E-W and N-S BRT lines. Depending on which site within the corridor is selected, passengers could also have relatively easy access to local bus Routes C and D as well.

People driving to the station could be served by new parking facilities constructed at or near the station. The corridor has good vehicle access from major highways and some space to provide parking, with the exception being any station sites selected east of First Street. This location between Main Street and Winnebago Street would require people to drive on more local streets, and it unclear where a parking could be accommodated.

Visitors to Madison and Madison residents accessing the station by foot or bike would be moderately served by the station. Few regional destinations are currently within a reasonable walking distance.

The First Street Corridor could cause all trains serving Madison to cross East Washington Avenue and possibly Johnson Street, depending on where the site is actually located, lowering the gates and causing delays to traffic on these corridors as well as both E-W and N-S BRT. Siting the station east of First Street would have the fewest traffic impacts.

Land Use and Development

The land uses and opportunities for redevelopment around the First Street Corridor are somewhat compatible. Adjacent land uses are highly dependent on where exactly the chosen site is in the corridor.

East of First Street, the Schenk-Atwood neighborhood is a compact mixed-use business node with restaurants, bars and other attractions as well as multi-family and single-family housing. While the area has attractions for passenger rail travelers, there may be conflicts with the single-family neighborhoods and possible displacement of existing commercial buildings and community gardens.

The area between East Washington Avenue and Johnson Street is a developing area with several new developments as well as Burr Jones Park and the planned public market, with single-family land uses to the northeast. North of Johnson Street the land uses are dominated by the WSOR rail yard and other industrial uses, although some development could occur near this area. The corridor is about two miles from downtown destinations and hotels.

Ridership Potential

This corridor is more centrally located and convenient for most Madison residents compared to more peripheral corridors discussed above. However, central, west side, and south side residents may still find the corridor less convenient. The corridor is at the east edge of the Capitol East District and isthmus and visitors to Madison would need connect to BRT or

use other means to continue their trip downtown. However, these travelers would have access to both the E-W and N-S BRT lines, with service every 7.5 to 15 minutes.

The relative ridership potential is medium-low compared to the other corridors.

Equitable Access

The corridor is more accessible to low-income communities because it has better transit access compared to more peripheral corridors. The site is relatively accessible to people who do not have access to cars with access to both E-W and N-S BRT as well as several local bus routes.

Summary and Rating

A key benefit of locating a station in this corridor is that it is the closest corridor to downtown and central Madison that does not require the train to reverse directions. Like the more central station options, the First Street Corridor is fairly well integrated into the urban fabric. The First Street Corridor is not walkable to downtown requiring a transfer to BRT and, to a lesser degree, also prioritizes people driving to the station over non-motorized modes.

Developing a station here close to the planned public market could provide benefits to both the station and the market. Although some competition for space and parking could occur, overall rail passengers will appreciate the dining options and the station will provide traffic and business for the vendors.

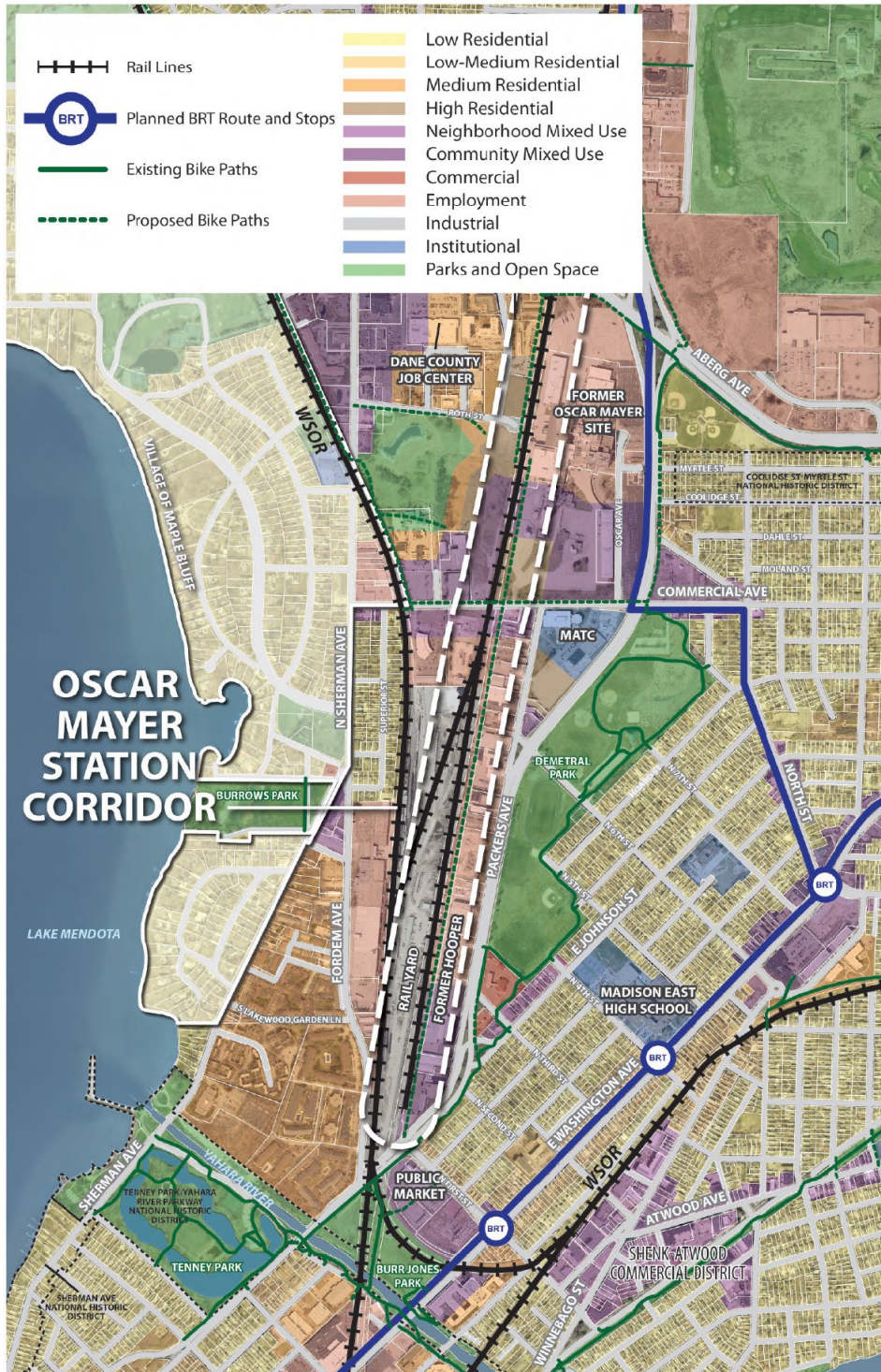
Figure 5.9: First Street Corridor Evaluation Rating

Rail Operations	Proximity to People, Jobs, Destinations	Equitable Access	Access and Multimodal Connectivity	Land Use and Development
+	-	-	+	+

Oscar Mayer Corridor

The Oscar Mayer corridor is located between the Dane County Airport and downtown Madison near the former 72 acre Oscar Mayer plant. The corridor was evaluated because of the availability of straight railroad track, redevelopment potential, and the inclusion of a transportation hub in the Oscar Mayer Special Area Plan.

Figure 5.10: Oscar Mayer Corridor



Evaluation

Rail Operations

Routing to a station in this corridor would be along both the WSOR tracks towards Watertown and CPKC spur. Overall passenger and freight train conflicts would be minimal in this corridor due to the low volume of freight traffic on both tracks.

Straight track is available for a 700 foot platform. Platform placement could be adjacent to active freight tracks with a low-level platform or on a parallel track with a high-level platform. An additional track would be needed along the east leg of the First Street wye connecting the WSOR and CPKC tracks and reestablishing a third track crossing Johnson Street. This additional crossing may cause impacts to the crossing and adjacent closely spaced traffic signals.

Access and Multimodal Connectivity

A station in the Oscar Mayer Corridor would be convenient for residents on the north side of Madison but less so for residents in central, south, or west Madison. A station would be located about 1,400 feet (a little more than ¼ mile) from the N-S BRT line on Packers Avenue. While this area has sidewalks, the pedestrian environment is less attractive because of the industrial land uses and high speeds on Packers Avenue. However, many of these conditions are expected to change over the coming years.

New parking facilities constructed at the station would serve people driving to the station. However, many Madison residents would need to drive out of direction to reach the station. The station has good vehicle access from major highways and sufficient space to provide parking, people in south or west Madison would end up driving through downtown past the other corridors to get to the Oscar Mayer Corridor.

Visitors to Madison and Madison residents accessing the station by foot or bike would be moderately served by the station. Few regional destinations are currently within a reasonable walking distance but the implementation of the Oscar Mayer Special Area Plan will add residents and destinations. The plan also adds streets and improves pedestrian and vehicular connectivity. People traveling to the downtown area would need to transfer to BRT to continue their trip.

The Oscar Mayer Corridor would cause all trains serving Madison to cross East Washington Avenue and Johnson Street, lowering the gates and causing delays to traffic on these corridors as well as both E-W and N-S BRT.

Land Use and Development

Compatible land uses around the Oscar Mayer Corridor are modest but opportunities for redevelopment exist. Adjacent land uses include the former Oscar Mayer plant, which has been converted to other uses, open space, various commercial uses, and single family homes. The corridor has some restaurants and some retail, and is approximately three miles from downtown destinations and hotels.

Implementation of the Oscar Mayer Special Area Plan would make the area much more conducive to passenger rail. The plan recommends 15 acres of high-density residential, 25 acres of medium-density residential, 55 acres of community / neighborhood mixed use development. Some landowners are actively seeking redevelopment, but timetables and redevelopment uses are uncertain.

Ridership Potential

Figure 5.11: Oscar Mayer Special Area Plan Recommendations



This corridor is convenient for Madison residents on the north side of Madison and to a lesser extent the east side; however, it is distant from many Madison residents, the campus area, Capitol Square, and other key destinations in Madison. Passengers would need to walk approximately one-quarter mile to a BRT station, bike, or use a personal automobile, taxi, or TNC to connect to major destinations in the City.

The relative ridership potential is medium-low compared to the other corridors.

Equitable Access






The corridor primarily serves people coming to the station by car but also is accessible through the BRT system. The corridor is adjacent to low-income neighborhoods on the north side. While transit access to the corridor is relatively good, and the site is relatively accessible to people who do not have access to cars, it only has access to the N-S BRT line, while other corridors have access to both N-S BRT and E-W BRT as well as several local bus routes.

Summary and Rating

One benefit of locating a station in this corridor is the availability of space and favorable rail operations along the lightly used CPKC track. The corridor would provide opportunities to provide parking and easy access from Hwy 30. However, like the airport, the Oscar Mayer Corridor favors people driving to the station over people using other modes.

Developing a station here would be compatible with the Oscar Mayer Special Area Plan and could foster its implementation and investment in the area by the private sector.

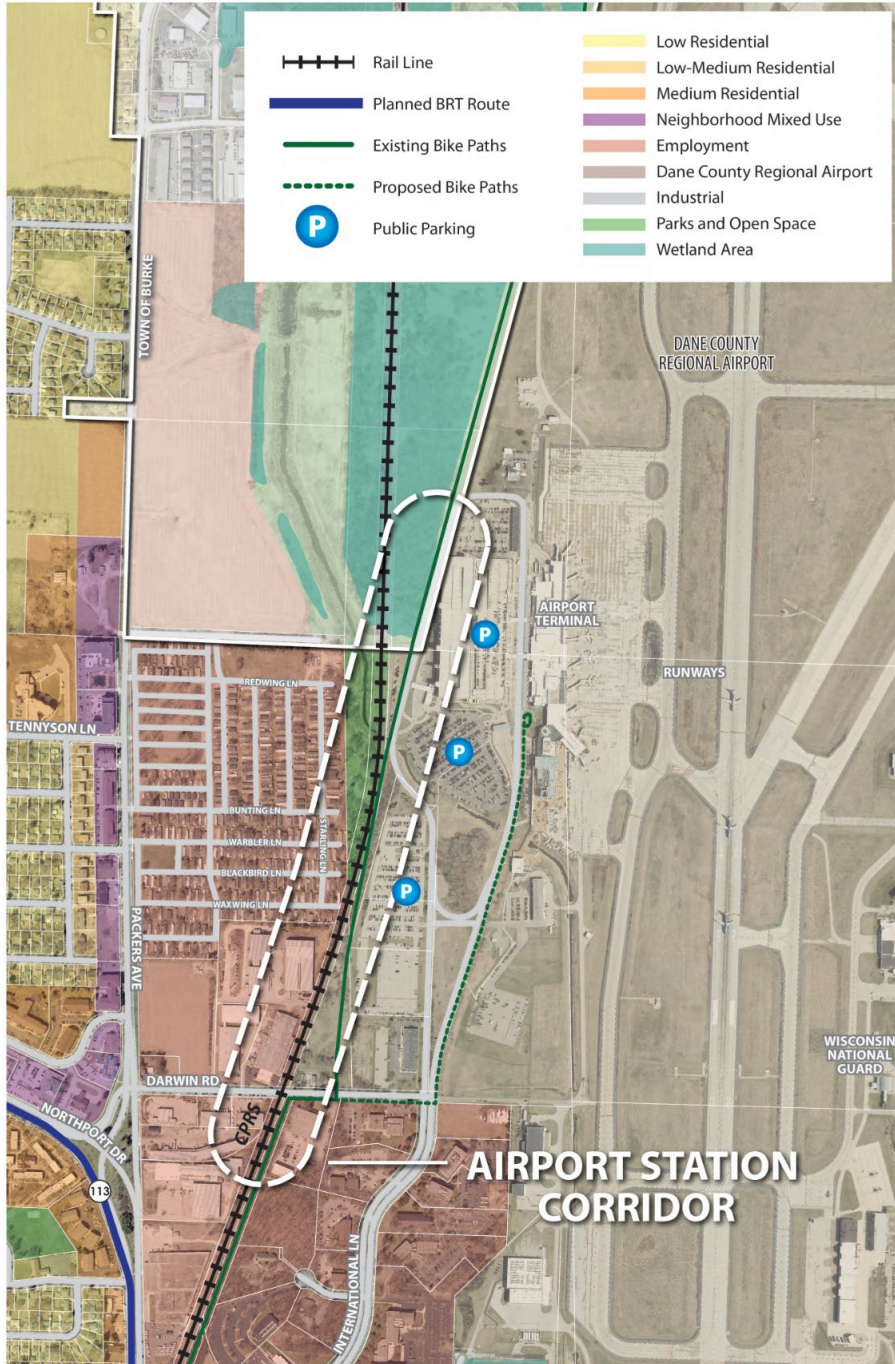
Figure 5.12: Oscar Mayer Corridor Evaluation Rating

Rail Operations	Proximity to People, Jobs, Destinations	Equitable Access	Access and Multimodal Connectivity	Land Use and Development
				

Airport Corridor

This Airport Corridor lies on the far north side of Madison to the north and east of the Packers Avenue and Northport Drive intersection. The corridor was evaluated due to the availability of tangent railroad track, available existing parking, and its connection to flights at the airport.

Figure 5.13: Airport Corridor



Evaluation

Rail Operations

Routing to a station in this corridor would be along both the WSOR tracks towards Watertown and CPKC spur. Overall passenger and freight train conflicts would be minimal in this corridor due to the low volume of freight traffic on both tracks.

Straight track is available for a 700-foot platform. Platform placement could be adjacent to active freight tracks with a low-level platform or on a parallel track with a high-level platform. An additional track would be needed along the east leg of the First Street wye connecting the WSOR and CPKC tracks and reestablishing a third track crossing Johnson Street. This additional crossing may cause impacts to the crossing and adjacent closely spaced traffic signals.

Proximity to People, Jobs, and Destinations

This corridor is distant from many Madison residents, the campus area, Capitol Square, and other key destinations in Madison. Connections to and from the Dane County Airport are not expected to be a major driver of ridership since larger airports in Milwaukee and Chicago are located along the Hiawatha Service route. Since the area surrounding the airport does not have strong multimodal transportation options, riders would likely be dependent on personal automobiles, taxis, or transportation network companies (TNCs) such as Uber or Lyft to travel to and from a station near the airport.

The relative ridership potential is low compared to corridors that are more centrally located.

Access and Multimodal Connectivity

A station within the Airport Corridor would be convenient for some residents on the north side of Madison but the corridor lacks multimodal connectivity. A station would be located some distance from the N-S BRT line. One local transit route (Route D2) directly serves the Airport Corridor every 30 to 60 minutes.

Existing established parking facilities that also serve the airport would serve passengers driving to the station. However, most Madison residents would need to drive out of direction to reach the station. Although the station has good vehicle access from major highways, most people would end up driving past the other candidate corridors to get to the Airport Corridor.

Pedestrian and bike access is poor surrounding the airport.

The Airport Corridor would require trains serving Madison to cross East Washington Avenue, Johnson Street, and Packers Avenue, lowering the gates and causing delays to traffic on these corridors as well as both E-W and N-S BRT. This location would be suited for continuing service onto Minneapolis/St. Paul.

Land Use and Development

Adjacent land uses include the airport and its associated facilities, a manufactured home neighborhood, and various low-density retail and office buildings. The corridor does not have restaurants, retail, or entertainment destinations and is approximately five miles from downtown destinations and hotels.

Equitable Access

The corridor is inequitably accessible since it primarily serves people coming to the station by car. The corridor is adjacent to low-income neighborhoods but not easily accessed by them. Transit access to the corridor is relatively poor.

Summary and Rating

One of the key reasons to locate a station in this corridor is to provide inter-city rail connections to the Dane County airport; however, people would have little reason to use this feature because the route would connect to several larger airports with more direct flights in Chicago and Milwaukee.

A station located in the Airport Corridor would result in long overall travel times since the corridor is not located near a large number of people, jobs, or other destinations, and those people would have to other modes to continue their trips. The corridor fails to meet the city’s goals of prioritizing non-motorized trips to and from the station. An Airport Corridor would not connect regional travelers to economic and cultural assets in Madison.

Table 5.14: Airport Corridor Evaluation Rating

Rail Operations	Proximity to People, Jobs, Destinations	Equitable Access	Access and Multimodal Connectivity	Land Use and Development
+	×	×	×	×

Other Considerations for Corridor Selection

Train Storage and Servicing

Amtrak crews will need a location to store and service the trains. This location could be at the station itself or nearby, but if the location is too far from the terminal station, out of service trains traveling back and forth between the storage area and station will increase operating costs. The area needs the ability to store at least one train overnight and have a service road next to it so that trucks can access the side of the train.

Several possible train storage and servicing locations have been identified. It appears that one of the following locations could adequately serve all corridors identified above:

1. Siding off the CPKC spur near the airport
2. Siding off the CPKC spur between Johnson Street and Aberg Avenue
3. Siding one block north of WSOR tracks between Ingersoll Street and Baldwin Street
4. Siding off WSOR tracks on the isthmus adjacent to a station
5. Siding off the WSOR tracks south of Olin Avenue

Intercity Bus Integration

Intercity bus integration will be important to successful Amtrak service in Madison. If all intercity buses to Milwaukee and Chicago stop at the passenger rail station, passengers will have a higher level of frequency. Currently, Madison is served by several different intercity bus operators that provide relatively frequent service to Milwaukee and Chicago, and less frequent but regular service to Minneapolis/St. Paul. In addition, intercity bus service is available from Madison to Janesville, Rockford, Dubuque, La Crosse, Wausau, Appleton, Green Bay, and other destinations.

Madison's current primary intercity bus stop is on Lake Street just north of Dayton Street. A new intercity bus terminal is planned with the State Street Campus Garage project on Lake Street just south of State Street, replacing one of Madison's aging parking garages. Ideally, intercity buses would serve the new bus terminal as well as the proposed Amtrak station. For this to be achieved successfully, the Amtrak station should be located close to the bus terminal on Lake Street, or in a location where intercity buses can serve it without a lot of indirection.

Effects on intercity bus operators for the different corridors are shown below.

Campus Corridor: Intercity bus routes would have essentially no deviations or extensions to their routes. Routes would probably serve both the intercity bus terminal and Amtrak station which would be at most one-half mile apart.

Downtown / Isthmus Corridor: Intercity bus routes would have a minor deviation or extension to their routes. The location would be between one and two miles from the Lake Street terminal.

East Side Corridor: Intercity bus routes to Chicago would have to drive significantly outside of their route. The corridor would be a relatively minor deviation for Milwaukee and Twin Cities buses.

First Street Corridor: Intercity bus routes to Chicago would have to drive outside of their route. The corridor would be a minor deviation for Milwaukee and Twin Cities buses.

Oscar Mayer Corridor: Intercity bus routes to Chicago would have to drive far outside of their route. The corridor would be a relatively minor deviation for Milwaukee and Twin Cities buses.

Airport Corridor: Most or all intercity bus routes would have to drive far outside of their route and probably would not serve the station.

Shuttle Service to Downtown

Several public and stakeholder comments have expressed interest in a peripheral intercity passenger rail station with a shuttle service to downtown. The mode for the shuttle service could be a bus that is timed with the train arrivals and departures connecting passengers to the downtown area, a separate train timed with the train arrivals and departures connecting passengers to a second downtown station, or a commuter rail, light rail, or streetcar system. Examples of shuttles include the Princeton Dinky in New Jersey, the Hop streetcar in Milwaukee, and Amtrak shuttle bus service in San Francisco.

This study assumes that these types of shuttles are infeasible and will not be included with the Amtrak service for the following reasons:

1. A shuttle would be duplicative of the BRT system or other Metro route serving the station.
2. A shuttle would substantially increase operating costs of the system, which the State of Wisconsin or Amtrak are unlikely to cover.
3. For shuttle service from downtown to the station, the shuttle would necessarily arrive a long time before the train departs. This would be unattractive compared to using BRT to arrive at the station.
4. Madison will be a terminal station for some trains. Therefore, having passengers transfer from one train to another to continue their journey downtown would be inefficient; it would be faster and cheaper to have the same train continue to downtown.
5. The City of Madison and Dane County have investigated various light rail, streetcar, and commuter rail systems since the 1980s and none have materialized. This mode would be an expensive project that would need to proceed on its own time frame with independent utility.
6. There is some risk that policy makers, stakeholders, and members of the public will endorse a station location with the assumption that shuttle service will come with it. If this shuttle service does not materialize, there may be disappointment and underuse of the station.

Multiple Stations

This study assumes that only one station will be built, and will make a recommendation for one location. However if the opportunity arises for a second or third station in Madison station, it may be possible to increase the utility and ridership of the line by adding it.

For example, it may be possible to provide one station that is centrally located with strong access to downtown Madison and destinations, and a second peripheral station with better highway access and parking. For example, Milwaukee has the downtown Milwaukee Intermodal Station and a second Milwaukee Airport Station which has additional parking. More than one station also exists in Detroit, Boston, San Diego, and many other cities.

A similar solution would be to have one station downtown for trains ending in Madison and a separate station farther east or north for the trains continuing to Minneapolis/St. Paul. There are several examples of this including Buffalo, NY where long-distance Lakeshore Limited trains to Chicago stop at the peripheral Buffalo-Depew station but Empire Service trains to Niagara Falls stop in downtown Buffalo. This setup is not preferable because passengers would not have one unified station where they can catch all trains.

Regional Equity

This study acknowledges that the station in Madison will not only serve Madison residents, but also other residents in Dane County. The assumption by some commenters is that these communities would prefer a peripheral station to a central Madison station, and that may be true in some cases but not all.

Effects on selected neighboring communities are shown below.

Waunakee and DeForest – Best served by a north Madison peripheral station.

Sun Prairie – Unlikely to be served well by any station due to significant out of direction travel into Madison.

McFarland and Stoughton – Equally served by a central Madison station using John Nolen Drive or a peripheral station using Hwy 51 or I-39/90.

Fitchburg and Oregon – Best served by a central Madison station.

Verona – Best served by a central Madison station.

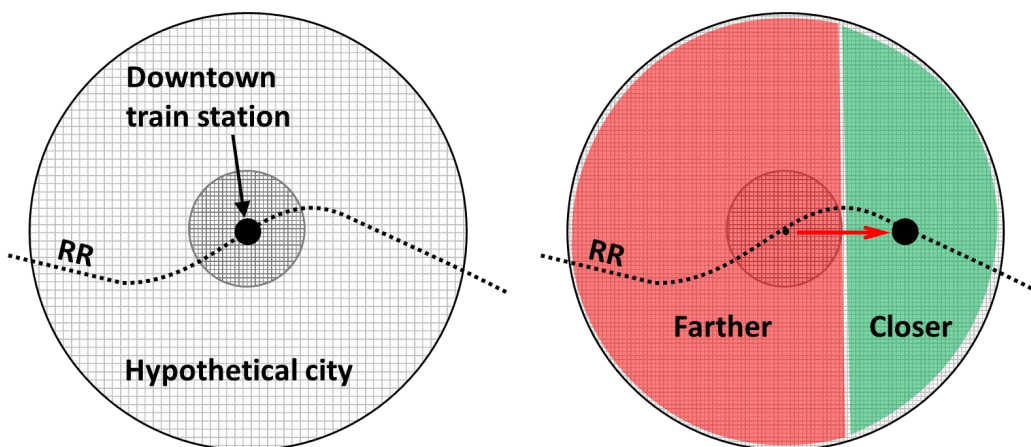
Middleton – Residents driving to the station may prefer a north Madison peripheral station using Hwy M; residents using the bus or other means would be best served by a central Madison station using Routes F or R2, and would not need to transfer to another route.

Some commenters have suggested that an additional station in or near Sun Prairie would provide much more utility to communities north and east of Madison. Communities that would benefit from a station in this area include Sun Prairie, Waunakee, DeForest, and Cottage Grove. It is unlikely that the Madison station has the ability to serve these residents adequately because they would have to travel in the opposite direction that they are trying to go. Stations outside of Madison are not in the purview of this study.

Downtown Passenger Rail Stations

A cursory review of existing Amtrak stations found that for stations serving a population of over about 135,000, about 8 in 10 stations are located downtown, about 1 in 10 are located on the periphery, and about 1 in 10 are located somewhere between downtown and the periphery (1 or 1.5 miles away). Of the larger Amtrak stations that are not downtown, most have geographical challenges that physically prevent trains from coming downtown (examples are Atlanta, Syracuse, and the San Francisco Bay area).

Amtrak, as well as other intercity passenger rail systems around the world, tend to take people from downtown to downtown. This tendency brings people from the most central parts of one city to the most central point at their destination. This maximizes access to offices, services, hotels, restaurants, and other amenities, offering a unique incentive to take the train over driving or flying. It decreases multiple transfers assuming that most transit systems, including Madison's, focus on the downtown. Many new stations are being located downtown (St Paul, Springfield, IL, Charlotte).



Train stations located at the centroid of a hypothetical city are most accessible to most people, especially considering the higher density in the core.

Moving the station in any direction from the downtown area makes it closer to some people, but farther from most people.

While most stations are in or close to downtowns, some Amtrak stations are located in the periphery. Peripheral stations tend to be easier to access by car, and long-term parking is easier to provide. Peripheral stations are generally not as

accessible to visitors to the city; instead, they serve residents of the host city who are traveling to another city. For example, the recently opened station in Orlando to serve Brightline Florida will be located near Orlando International Airport. Some stations are also located in the periphery because the rail network does not physically allow for downtown service, or because the original station was sold before the Amtrak era and is no longer available.

Corridor Analysis Summary and Recommendations

Table 5.7 shows the results of the corridor evaluations described throughout this section and lists which corridors this study recommends advance to the site analysis.

Table 5.7: Corridor Evaluation Ratings for All Corridors

Corridor	Rail Operations	Proximity to People, Jobs, Destinations	Equitable Access	Access and Multimodal Connectivity	Land Use and Development	Advance to Site Analysis?
Campus	✗	+	+	-	-	NO
Downtown	-	+	+	+	+	YES
East Side	+	✗	✗	✗	✗	NO
First Street	+	-	-	+	+	YES
Oscar Mayer	+	✗	-	-	-	YES
Airport	+	✗	✗	✗	✗	NO

For the following primary reasons, this study recommends the following corridors advance to the site analysis:

1. **Downtown** – High ridership potential, better transit access, walking access to the region’s core
2. **First Street** – Closest to downtown without reversing the train, access to both BRT routes
3. **Oscar Mayer** – Good rail geometry, several options for sites with sufficient space

For the following primary reasons, this study recommends the following corridors do not advance to the site analysis:

1. **Campus Corridor** – Too far off the main rail line, few opportunities for a station building and parking
2. **Near East Corridor** – Poor transit access, incompatible land use, low ridership potential
3. **Airport Corridor** – Poor access, incompatible land use, low ridership potential

6. Station Site Analysis

After the station area corridors were narrowed, the study team investigated specific sites that appeared to meet minimum requirements for the proposed station program and could be feasible to own or otherwise control to a necessary degree. The study team first looked at potential sites which were already owned or leased by the City. Then it looked at parcels that were privately owned, but appeared to have potential for redevelopment in the near future. This selection process provided eight specific sites for further evaluation.

These sites are listed below and shown in [Figure 6.1](#):

Downtown/Isthmus Corridor

1. Monona Terrace
2. Blair Street
3. Livingston Street
4. Baldwin Street

First Street Corridor

5. First Street
6. Johnson Street

Oscar Mayer Corridor

7. Commercial Avenue
8. Aberg Avenue

Figure 6.1: Potential Station Sites



Station Site Descriptions

Below is a brief description of each station site, highlighting key information about site size and configuration, site ownership and control, and basic access to and from the site.

1. Monona Terrace Site

A station at the Monona Terrace site would be located towards the east end of the parking structure. The platform would be in the middle of the 55-foot wide opening between the columns. The existing freight track, currently centered between the columns, would be relocated to the south side (closer to John Nolen Drive) and a new passenger track would be located on the north side of the platform.

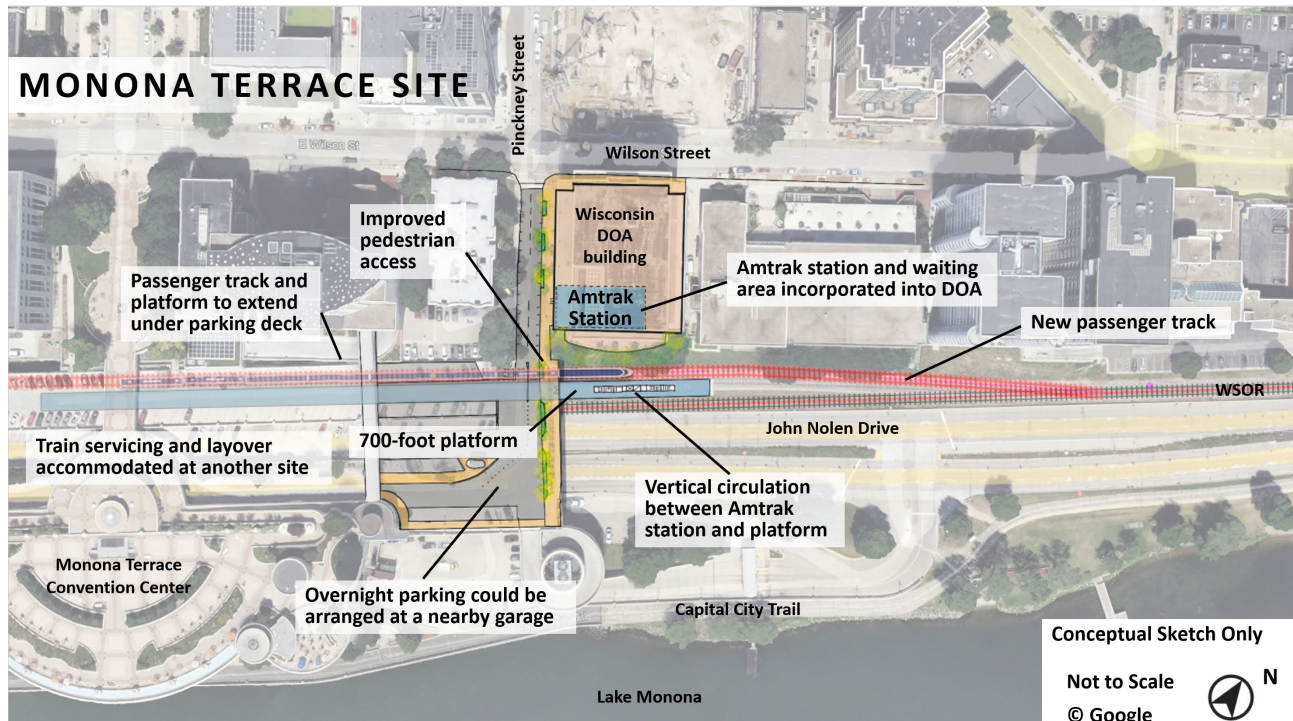
The station lobby would be incorporated into the existing State of Wisconsin Department of Administration Building at 101 E. Wilson Street, essentially consistent with plan in 2010. The first floor would be entered from Wilson Street where passengers would use the lobby, and then proceed over the platform and use stairs or elevators to go down three or four stories to the platform.

Pick ups and drop offs would occur on Wilson Street. It is unclear at this point how intercity buses would use the Monona Terrace site, but they would probably stop on street near the station. Pick ups and drop offs will be challenging at this location because Wilson Street is one-way westbound, and with vehicles stopping on the left, passenger doors will open into traffic rather than towards the sidewalk. Long-term parking would be challenging as well. If provided, it would need to be in existing ramps downtown. The parking would need a new rate structure that supports long-term parking; current rate structures are design for short term or day parking.

The site and the building are state-owned. An agreement would need to be made between the City of Madison and the State of Wisconsin to integrate the station into the existing public use.

Figure 6.2 shows a conceptual site diagram of the Monona Terrace station site.

Figure 6.2: Monona Terrace Station Site – Conceptual Site Diagram



2. Blair Street Station

A station at the Blair Street site would be located on the south side of the railroad tracks near the Gateway Mall at 600 Williamson Street. A new passenger rail siding track would be built on the south side of the existing freight track, with a platform on the south side of it.

The station lobby would ideally be incorporated into a redeveloped Gateway Mall site through a public private partnership. If redevelopment is not an option, the station could be incorporated into a small part of the existing building. Locating the lobby closer to Blair Street would be more visible, but orienting it towards Blount Street would be closer to pick ups and drop offs.

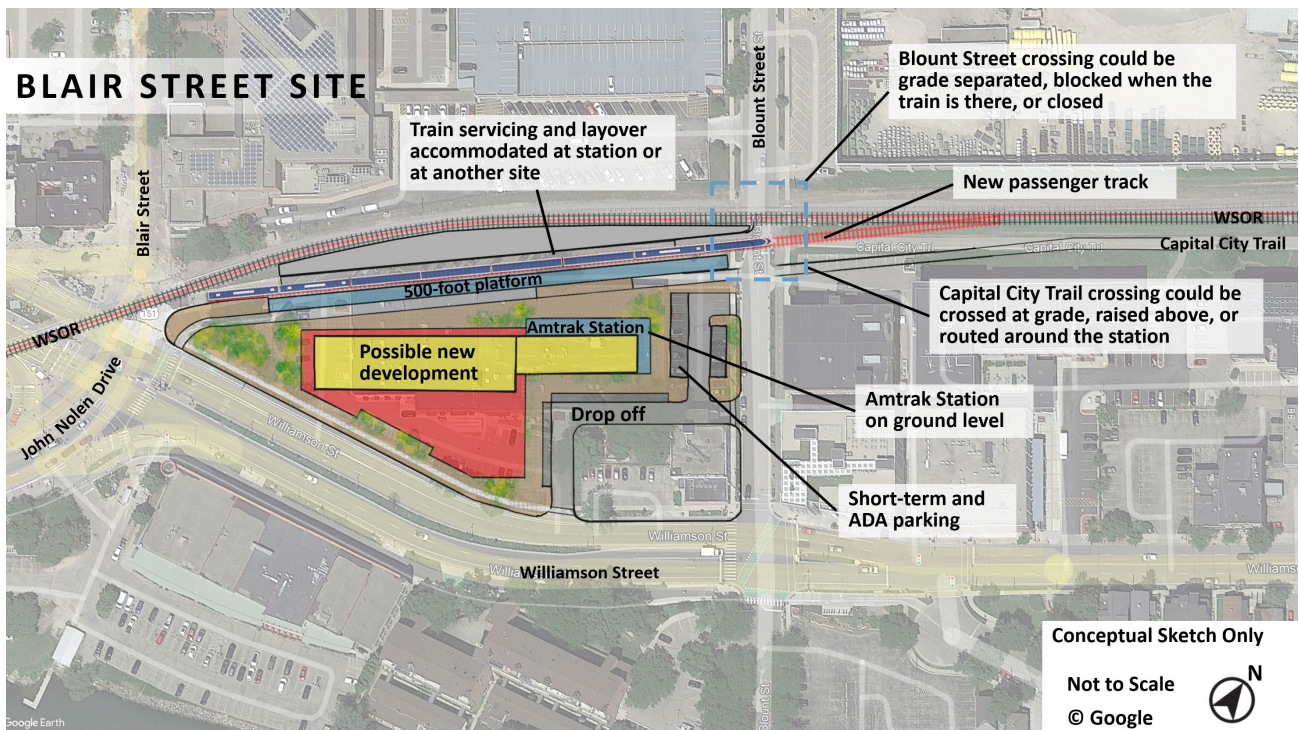
Pick ups and drop offs would occur on Blount Street. Blount Street is a local street with on-street parking and there is a small parking lot that may be incorporated into the site. Intercity buses would stop on either Blount Street or westbound on Williamson Street. Long-term parking would ideally be incorporated into the redeveloped site. If that is not possible, alternative parking locations exist nearby. The Livingston Street garage is about two blocks from the station. It may be possible to use some of the parking capacity at the Livingston Street garage for long-term Amtrak parking.

One challenge with this site is the limited space for a platform between Blair Street and Blount Street. This distance is about 600 feet and is not long enough to fit the train. Several options exist to accommodate the train however, including allowing the train to block Blount Street while it is serving the station, grade separating the crossing, and closing the crossing. The Capital City Path, situated between the lobby and platform, could be crossed by travelers at grade, it could be grade separated, or it could be rerouted around or through the site to avoid any conflicts. These options would be explored further if this site is chosen.

Accommodating the station program at this site would require the purchase of private property or an agreement with the current property owner.

Figure 6.3 shows a conceptual site diagram of the Blair Street station site.

Figure 6.3: Blair Street Station Site – Conceptual Site Diagram



3. Livingston Street Site

A station at the Livingston Street site would be located on the north side of the railroad tracks east of Livingston Street. A new passenger rail siding track may be built on the north side of the existing freight track, with a platform on the north side of it.

The station lobby would ideally be incorporated into new development on this site. If redevelopment is not an option, it may be possible to construct a new building on a small part of the site.

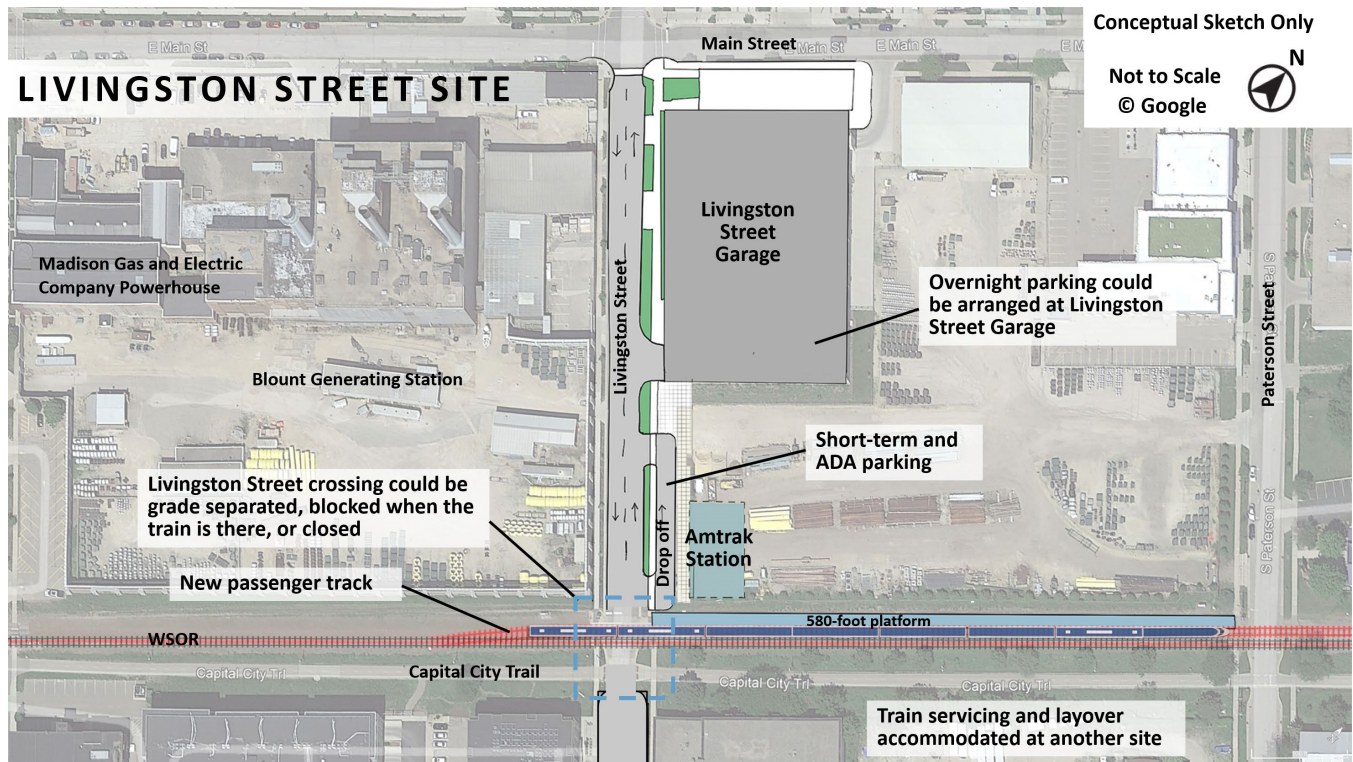
Pick ups and drop offs would occur on Livingston Street. Intercity buses would stop on street on Livingston Street or nearby. Long-term parking would ideally be provided at the Livingston Street garage one block from the station. It may be possible to use some of the parking capacity at the Livingston Street garage for long-term Amtrak parking.

The block between Livingston and Paterson Streets is privately owned and is being marketed as a redevelopment site. Therefore, the site may not be available within the city's timeframe for station development.

One challenge with this site is the limited space for a platform between Livingston Street and Paterson Street. This distance is about 600 feet and is not long enough to fit the train. Several options exist to accommodate the train however, including allowing the train to block Livingston Street while it is serving the station, grade separating the crossing, and closing the crossing. These options would be explored further if this site is chosen.

Figure 6.4 shows a conceptual site diagram of the Livingston Street station site.

Figure 6.4: Livingston Street Station Site – Conceptual Site Diagram



4. Baldwin Street Site

A station at the Baldwin Street site would be located on the south side of the railroad tracks west of Baldwin Street. Passenger trains would use the existing freight track, with a platform on the south side of it.

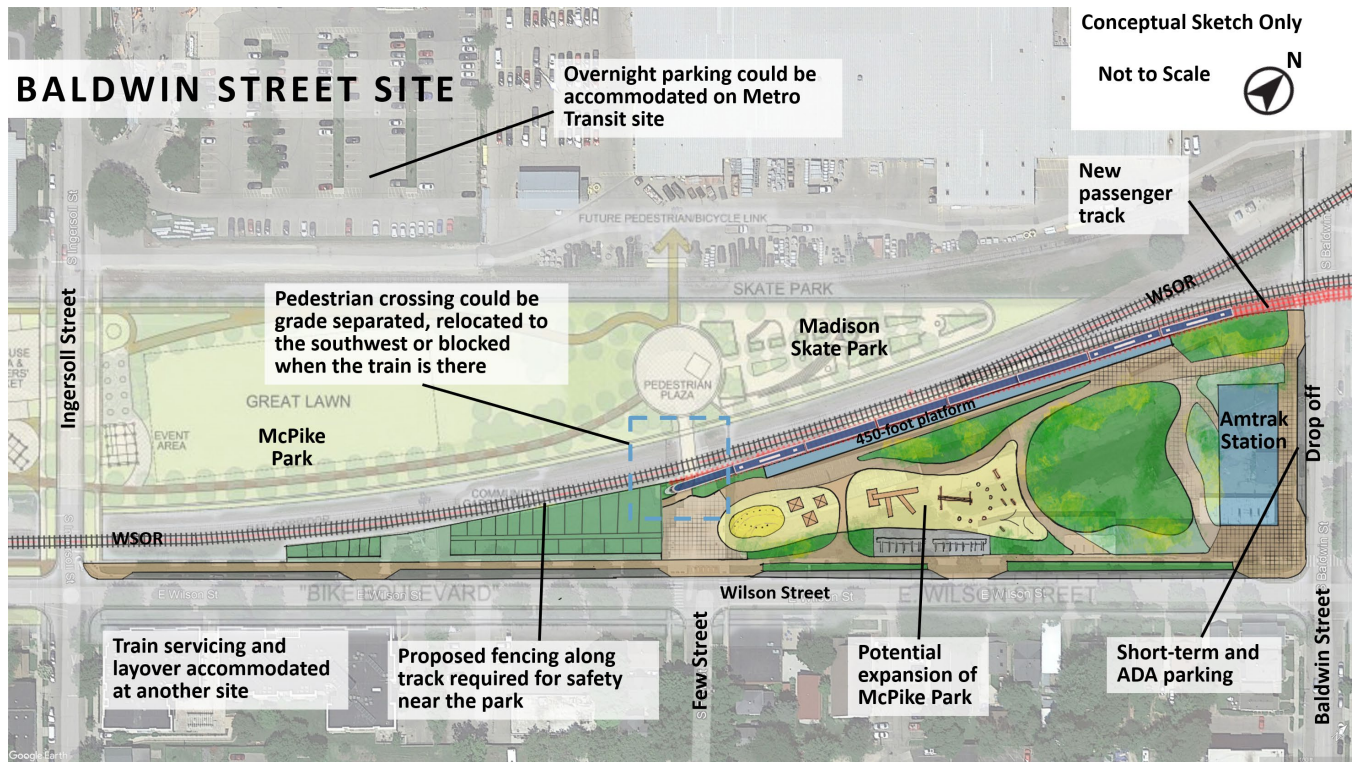
The station would be a new building on this site. The site currently has storage units on it, but it is planned to be an expansion of McPike Park. The Central Park Master Plan, approved in 2011, calls for a commuter rail station on this portion of the site, so a passenger rail station would be consistent with that plan. The site is owned by the City of Madison allowing station development to progress within the city’s timeframe. Coordination and agreements with the city’s park department would be required.

Pick ups and drop offs, as well as intercity bus service, would occur on Baldwin Street or Wilson Street. There are a few options for long-term parking, though no existing public lots are nearby. The Metro Transit bus storage and maintenance facility is near the site, and parking may be provided there by replacing the employee parking lot with a structure.

One challenge with this site is the limited space for a platform between the Few Street pedestrian crossing to McPike Park and Baldwin Street. This distance is about 600 feet and is not long enough to fit the train. Several options exist to accommodate the train however, including allowing the train to block the pedestrian crossing while it is serving the station, grade separating the crossing, and closing the crossing. These options would be explored further if this site is chosen. Because of the rail geometry at this location, the train would probably not reverse directions; instead, it would back up the short distance and continue around the First Street curve.

Figure 6.5 shows a conceptual site diagram of the Baldwin Street station site.

Figure 6.5: Baldwin Street Station Site – Conceptual Site Diagram



5. First Street Site

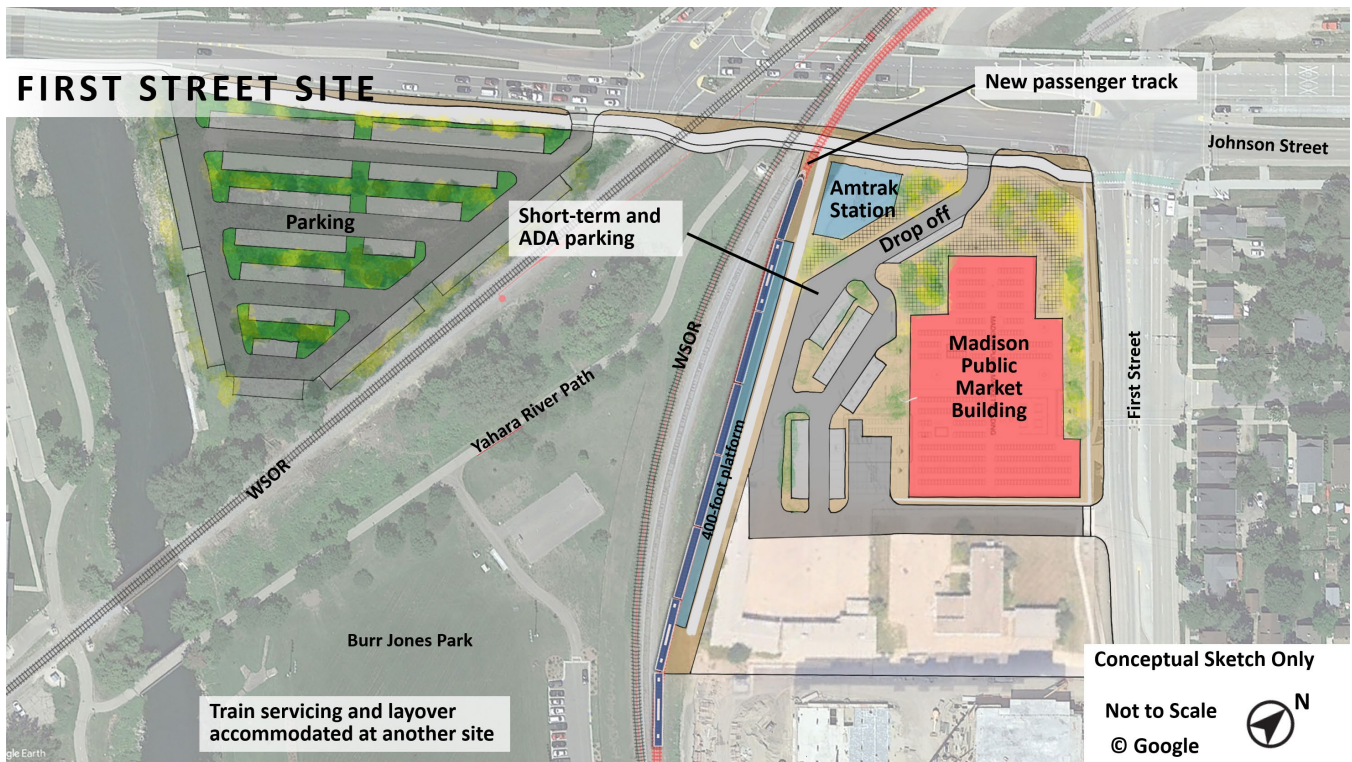
A station at the First Street site would be located on the east side of the curved railroad tracks between East Washington Avenue and Johnson Street. A new passenger rail siding track would be built on the east side of the existing freight track, with a platform on the east side of it. The passenger rail siding track would need to incorporate a section of straight track at the platform, which would limit the platform length to about half the train. Due to recent development in this area and other constraints, there are few options to provide a full-length platform.

The station would be a new building on the site near the planned Madison Public Market near the corner of First Street and Johnson Street. The Amtrak building would be a separate building, but passengers may find the public market to be a more comfortable place to wait with its tables and food and beverage options. The City owns the site.

Pick ups and drop offs, as well as intercity bus service, would occur on Johnson Street or on First Street. Long-term parking would be provided on the triangle west of the site bounded by the railroad track, Johnson Street, and the Yahara River. Parking could be surface or structured, but would not infringe on public market parking.

Figure 6.6 shows a conceptual site diagram of the First Street station site.

Figure 6.6: First Street Station Site – Conceptual Site Diagram



6. Johnson Street Site

A station at the Johnson Street site would be located on the north side of Johnson Street east of the CPKC railroad tracks. A new passenger rail siding track could be built on the east side of the existing freight track, with a platform on the east side of it. An electrical transmission easement exists just east of the railroad tracks, where structures could not be built, but would not infringe on pedestrian access between the lobby and platform.

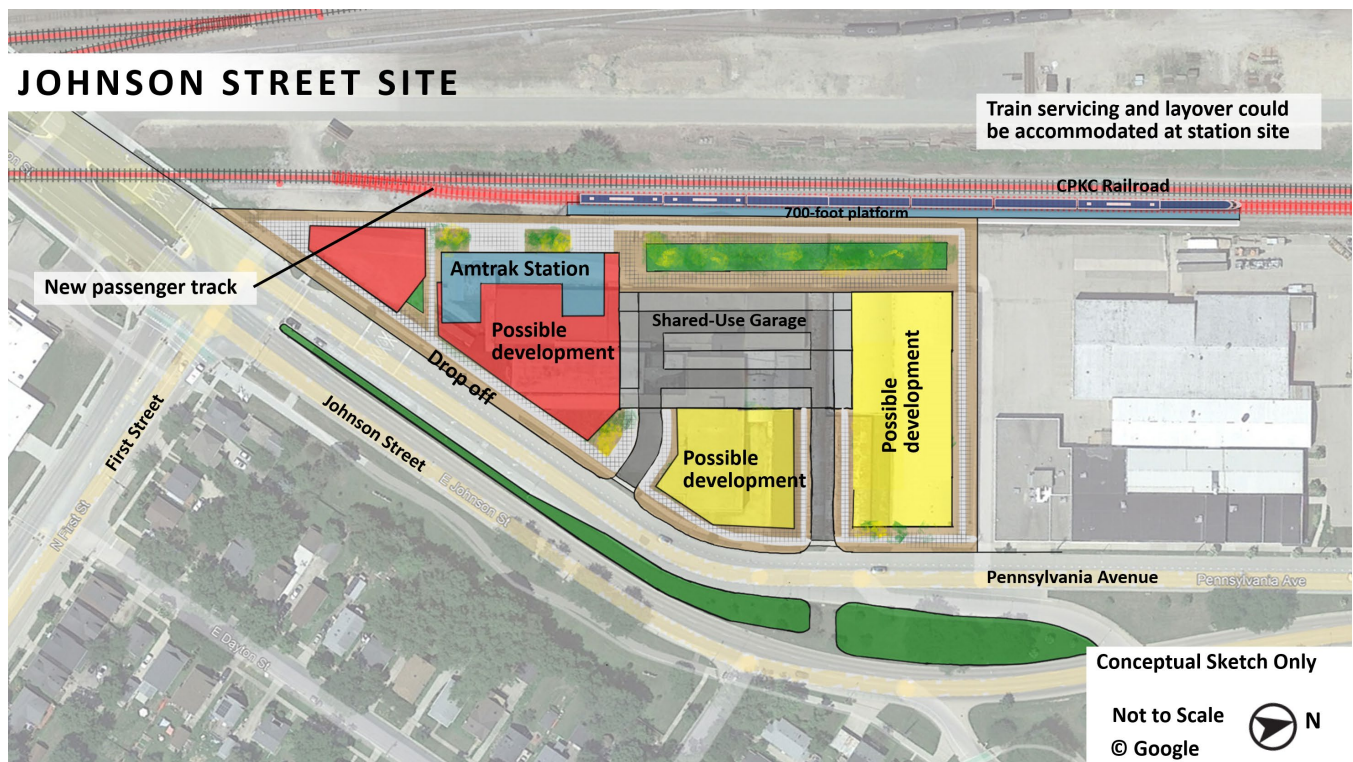
The site is privately owned and could be integrated into a larger redevelopment as part of a public-private partnership with transit oriented development (TOD) and a shared use parking garage. The parcel is current for sale and is being actively marketed.

The station would be a new building on the site just north of the First Street and Johnson Street intersection. The lobby could be a stand-alone building or incorporated into new development on the site.

Pick ups and drop offs would occur on-site while inter-city buses would stop westbound on Johnson Street. Long-term parking would be provided on-site and could be shared with parking for other purposes.

Figure 6.7 shows a conceptual site diagram of the Johnson Street station site.

Figure 6.7: Johnson Street Station Site



7. Commercial Avenue Site

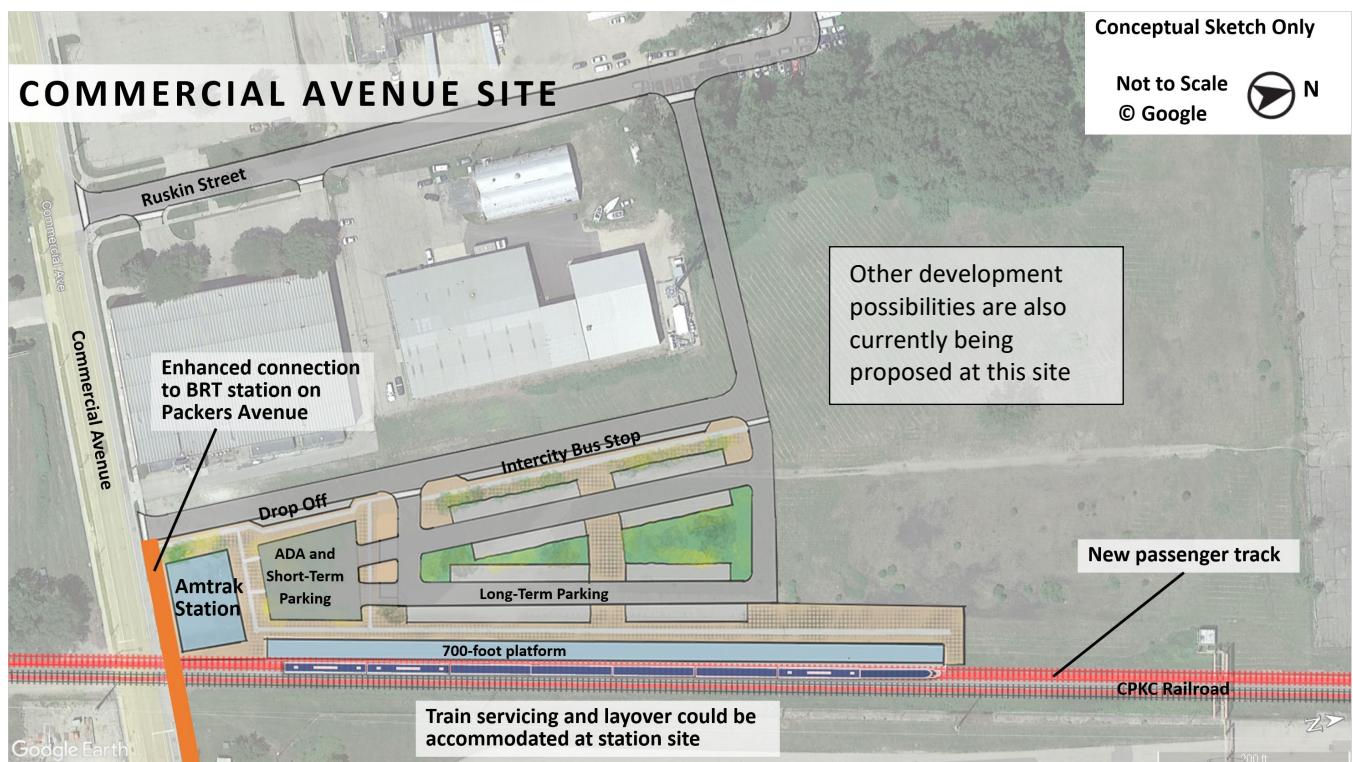
A station at the Commercial Avenue site would be located on the west side of the CPKC railroad tracks just north of Commercial Avenue. A new passenger rail siding track could be built on the west side of the existing freight track, with a platform on the west side of it. The vacant site is privately owned and could be purchased for station purposes.

The station would be a new building on the site just north of Commercial Avenue, west of the platform. The Oscar Mayer Special Area Plan calls for a multi-modal transportation facility essentially at this location. A new multi-family development is planned just north of the station site, and it would not be impacted. Other development possibilities are currently being proposed at this site, so it may not be available within the project's timeframe for a station development.

Pick ups and drop offs would occur on-site or on a new local street built to access the station, while inter-city buses would stop westbound on Commercial Avenue or on this new local street. Long-term parking would be provided on-site. To facilitate people continuing to or from downtown Madison, an improved sidewalk along Commercial Avenue would be built for a more comfortable walk to the N-S BRT station near Packers Avenue.

Figure 6.8 shows a diagram of the Commercial Avenue station site.

Figure 6.8: Commercial Avenue Station Site Diagram – Conceptual Site Diagram



8. Aberg Avenue

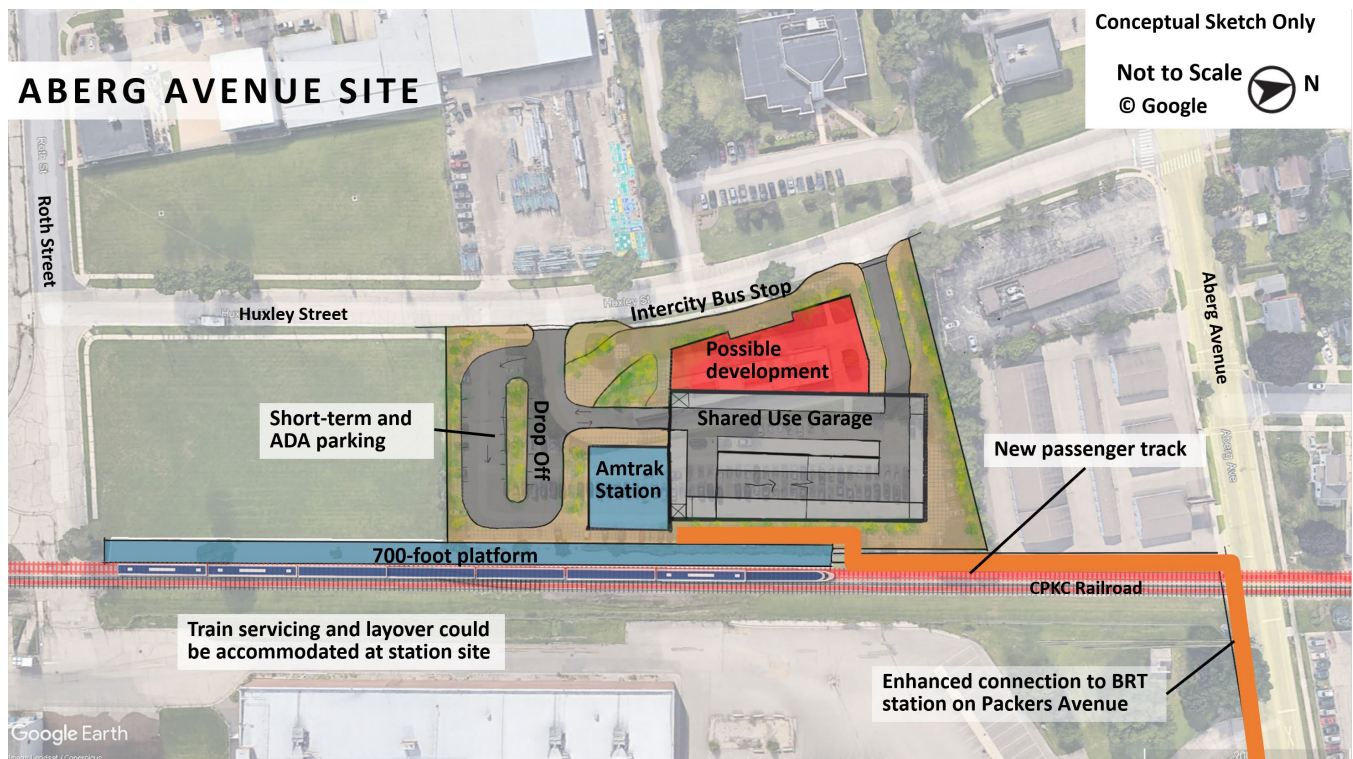
A station at the Aberg Avenue site would be located on the west side of the CPKC railroad tracks about one block south of Aberg Avenue replacing Metro Transit's former North Transfer Point, which closed in 2023. A new passenger rail siding track could be built on the west side of the existing freight track, with a platform on the west side of it. The site is privately owned; however, the City has a lease on the site, which would allow for a level of control of the site.

The station would be a new building on the site just west of the platform. The Oscar Mayer Special Area Plan calls for a multi-modal transportation facility just south of this location, and this location may be considered consistent with that plan. The station building would not impact existing properties near the southeast corner of Aberg Avenue and Huxley Street.

Pick ups and drop offs, as well as inter-city buses, would occur on-site or on Huxley Street. Long-term parking would be provided on-site. To facilitate people continuing to or from downtown Madison, an improved sidewalk along Aberg Avenue would be built for a more comfortable walk to the N-S BRT station near Packers Avenue.

Figure 6.9 shows a diagram of the Aberg Avenue station site.

Figure 6.9: Aberg Avenue Station Site Diagram – Conceptual Site Diagram



[Preliminary] Site Analysis

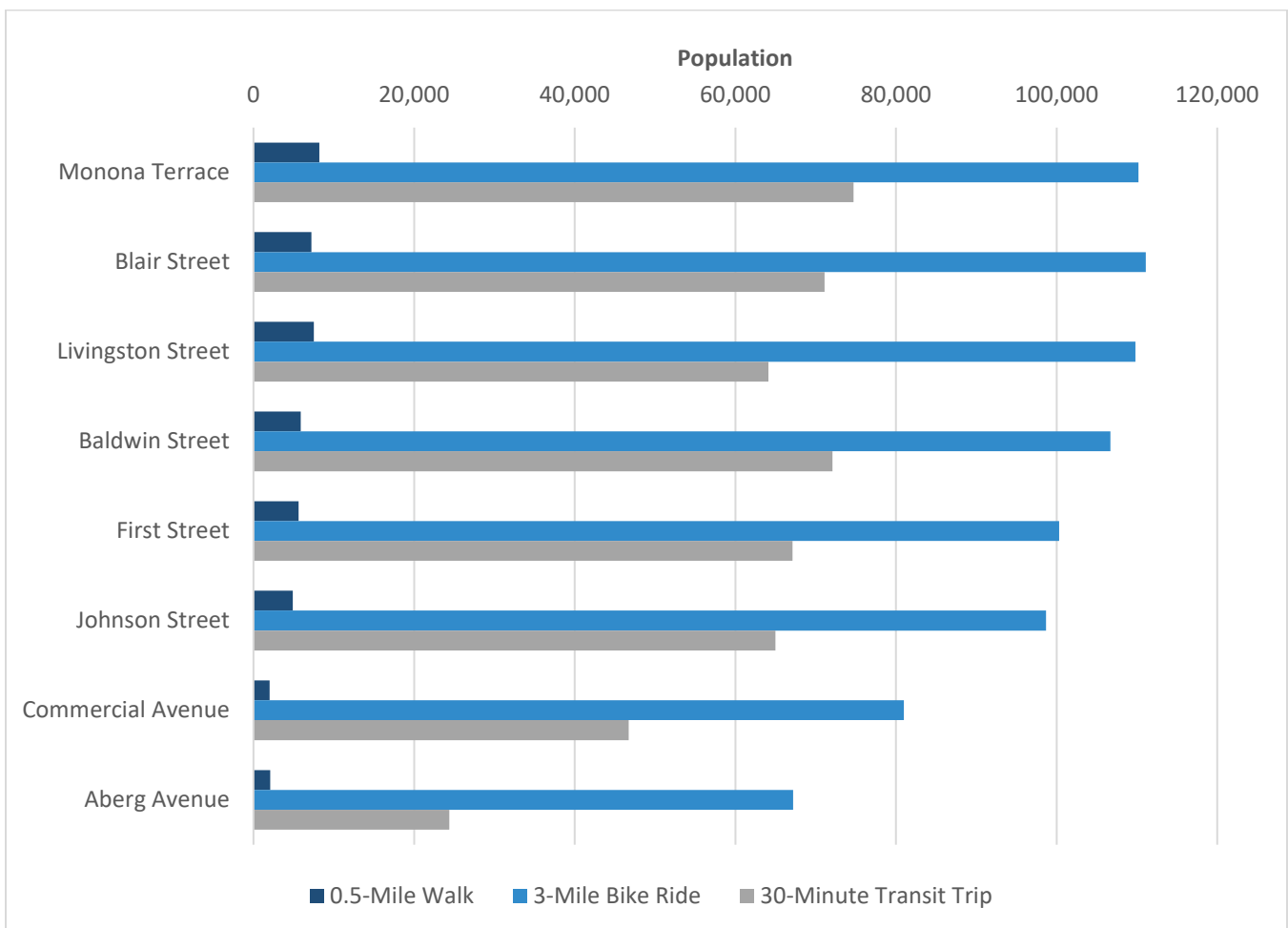
In order to evaluate the sites relative to one another, the project team reviewed a number of different data points to better understand how each site meets the evaluation criteria identified in Section 3 of this report.

Proximity to People, Jobs, and Destinations

An analysis of the people, jobs, and destinations within the travel shed of each site helps to understand how ridership potential may differ between sites under consideration. A travel shed is an area around a transportation facility—typically a bus station, train station, or airport—where people are generally expected to travel within to access that facility. For people and jobs, the travel shed was measured using industry standards for reasonable distances by mode of transportation. Specifically, a 0.5 mile walk, a 3-mile bike ride, and a 30-minute transit trip were analyzed. Typically, travel shed for a passenger rail station ranges from 10-30 miles; however, since the purpose of this study is to identify a station location among several options within the City of Madison, this analysis uses narrower travel-sheds. The people, jobs, and socioeconomic make-up for personal automobile access to the station within a 10-30 mile radius would be about the same for all eight potential station locations.

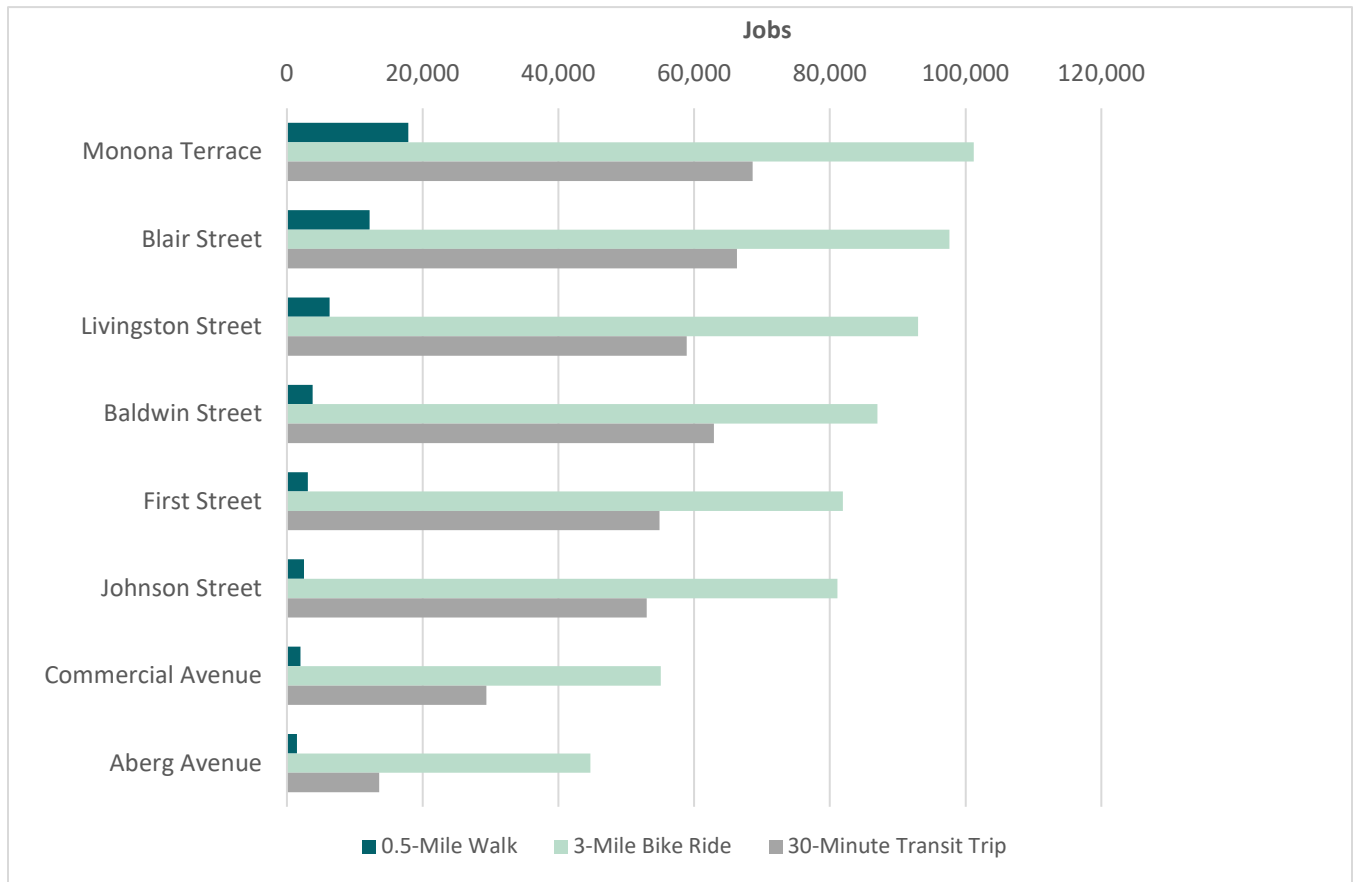
Figures 6.10 and 6.11 show people and jobs within a reasonable walk, bike ride, or transit trip from potential station locations, respectively.

Figure 6.10: People within a Reasonable Walk, Bike Ride, or Transit Trip from Potential Station Locations



Source: U.S. Census Bureau (2020 Census)

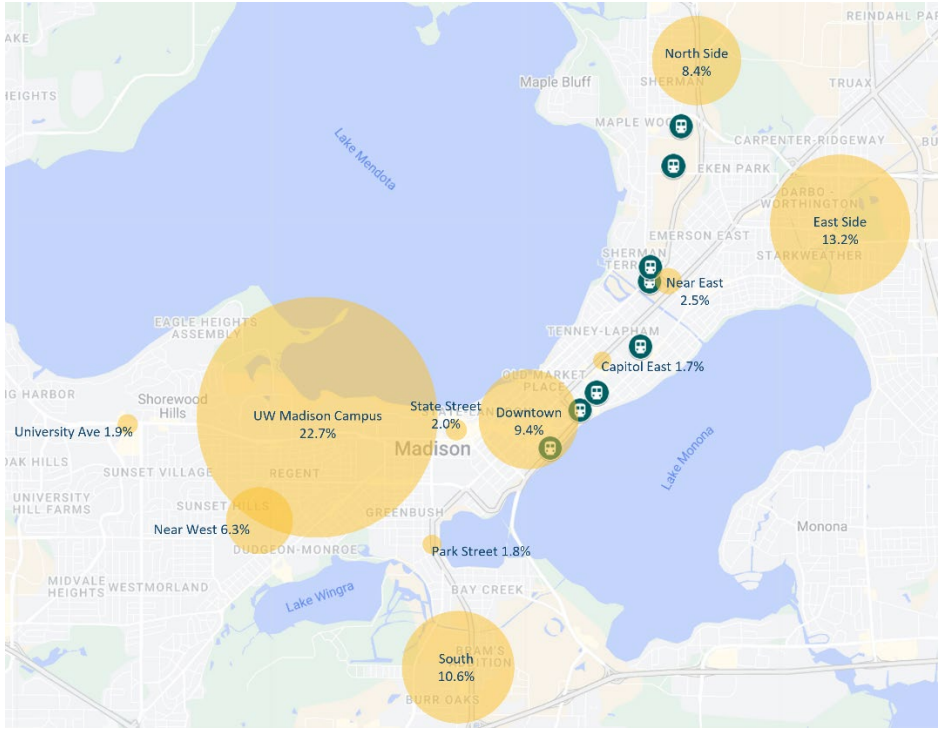
Figure 6.11: Jobs within a Reasonable Walk, Bike Ride, or Transit Trip from Potential Station Locations



Source: U.S. Census Bureau (Census Transportation Planning Products – 2012-2016)

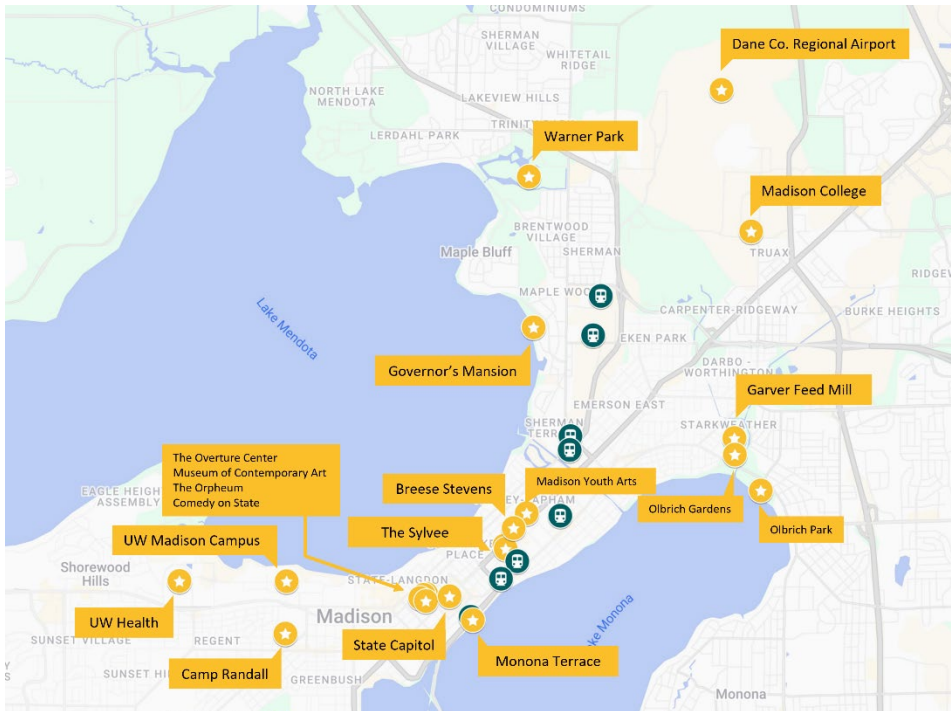
Proximity to popular visitor destinations in Madison are also important to provide a convenient last-mile connection for visitors—whether for leisure, business, or other purposes. Figure 6.12 provides a map of visitor destinations by Madison “region” (as a percent of total visitors), and Figure 6.13 provides a map of top visitor destinations excluding East Towne and West Towne Malls, restaurants, and hotels. Figure 6.14 shows the number of hotel rooms within a 0.5-mile walk from potential station sites.

Figure 6.12: Visitor Destinations by Madison “Region”



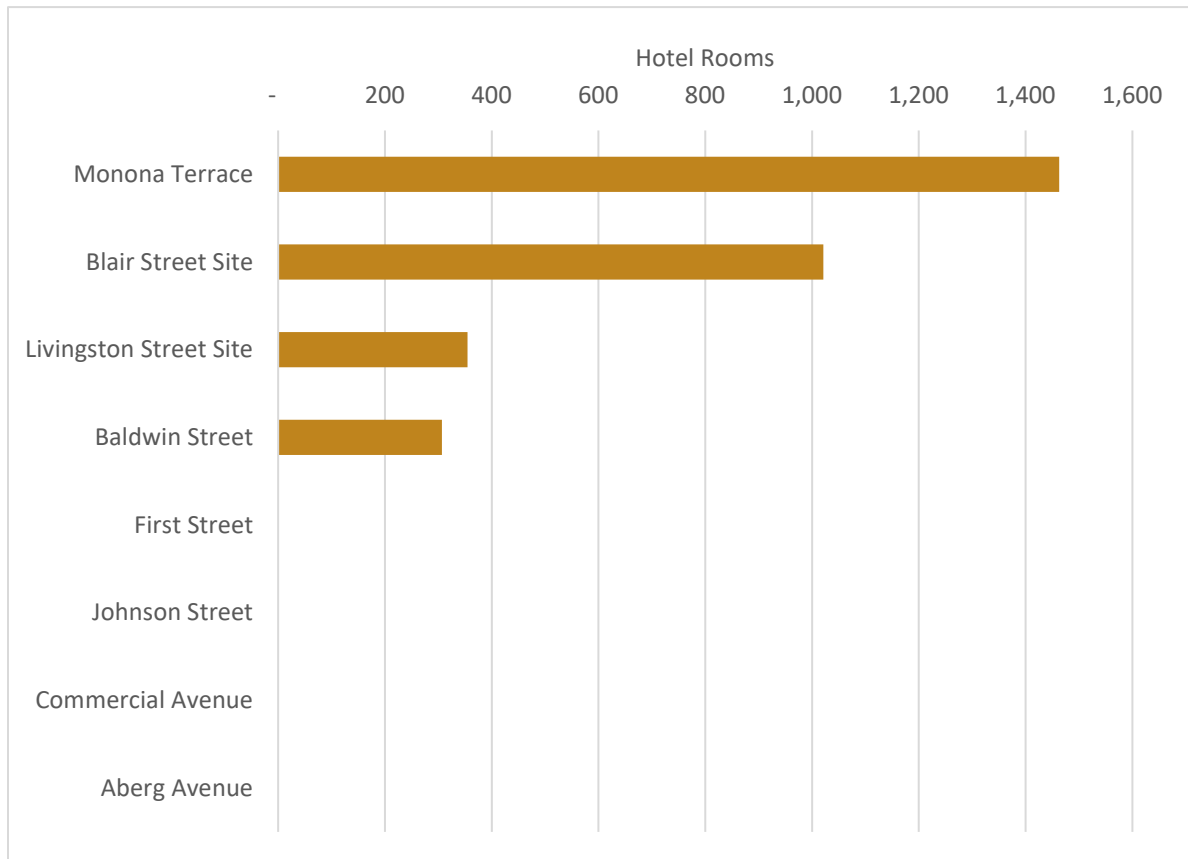
Source: Destination Madison and City of Madison; Base Map: Google Maps

Figure 6.13: Top Visitor Destinations



Source: Destination Madison and City of Madison; Base Map: Google Maps

Figure 6.14: Hotel Rooms within 0.5-miles of Potential Station Sites

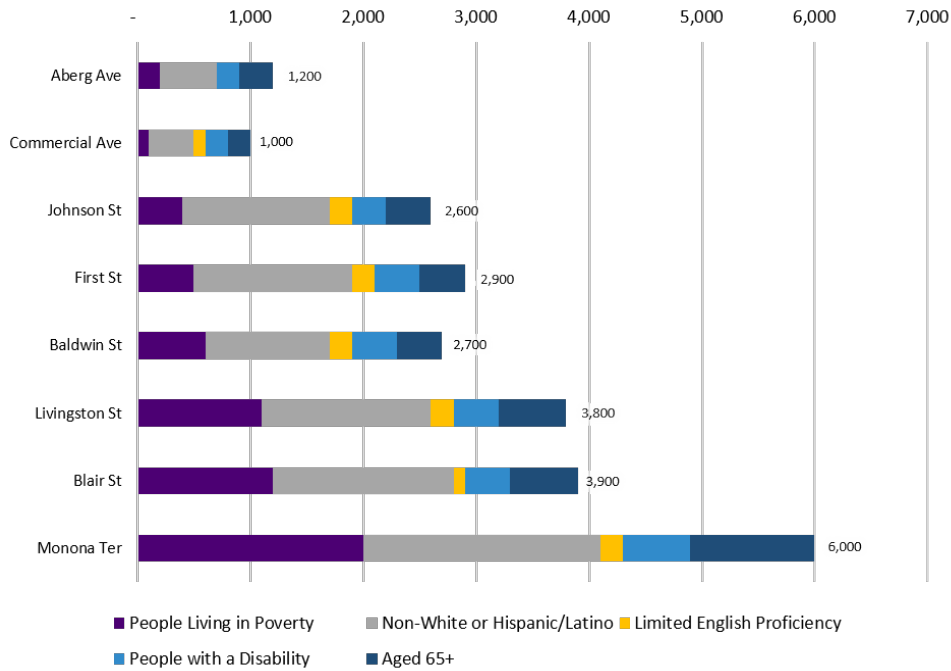


Equitable Access

The following travel shed analysis uses socioeconomic data to understand potential access by underserved communities. Data from the U.S. Census Bureau was used in this analysis and underserved communities were identified as families with incomes below the poverty level, people who are non-White or of Hispanic/Latino Origin, people with limited English proficiency, people with a disability, people aged 65 and older.

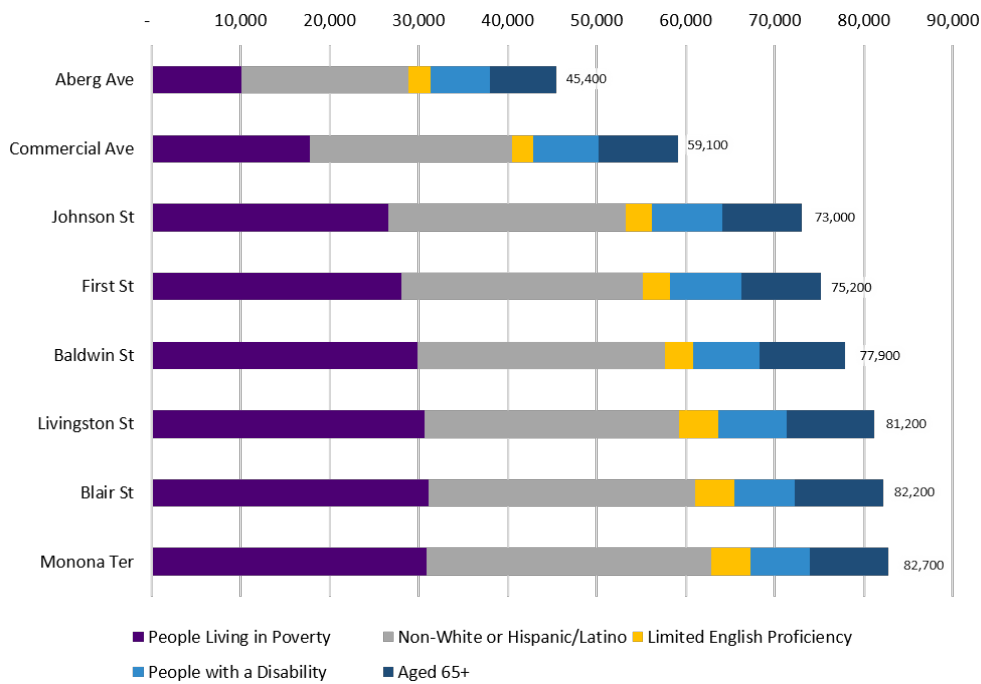
Figures 6.15 through 6.17 show underserved populations within 0.5-miles, 3-miles, and a 30-minute transit ride of potential station sites. Figure 6.18 shows the same information for car-free households.

Figure 6.15: Underserved Populations within a 0.5-Miles of Potential Station Sites



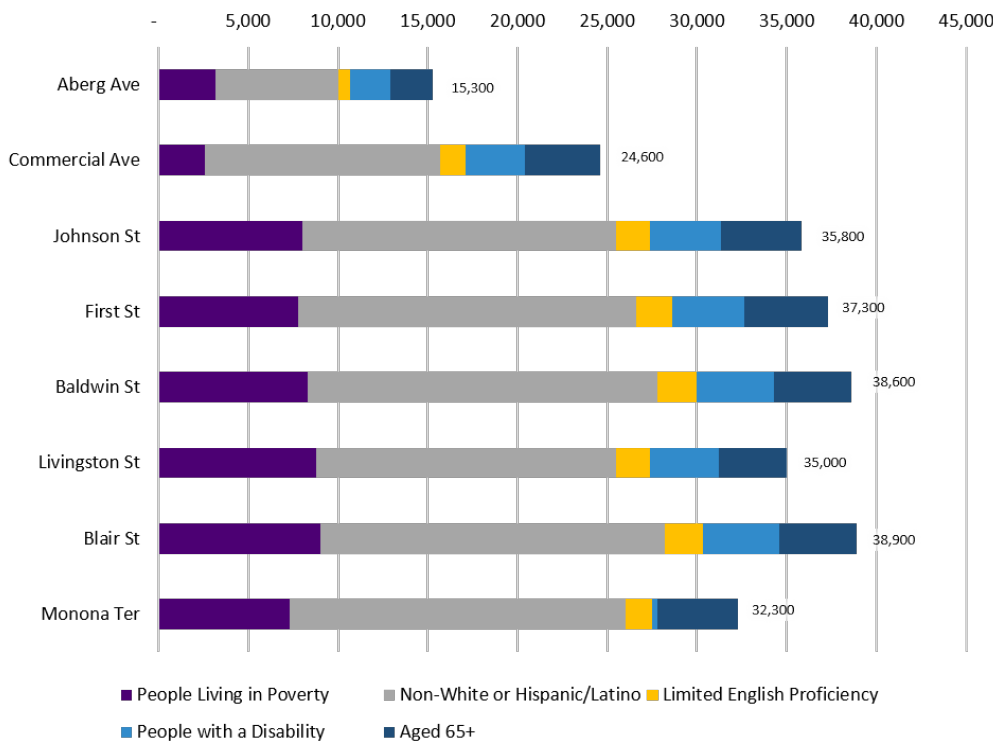
Source: U.S. Census Bureau (2020 Census and 2017-2021 American Community Survey)

Figure 6.16: Underserved Populations within a 3-Miles of Potential Station Sites



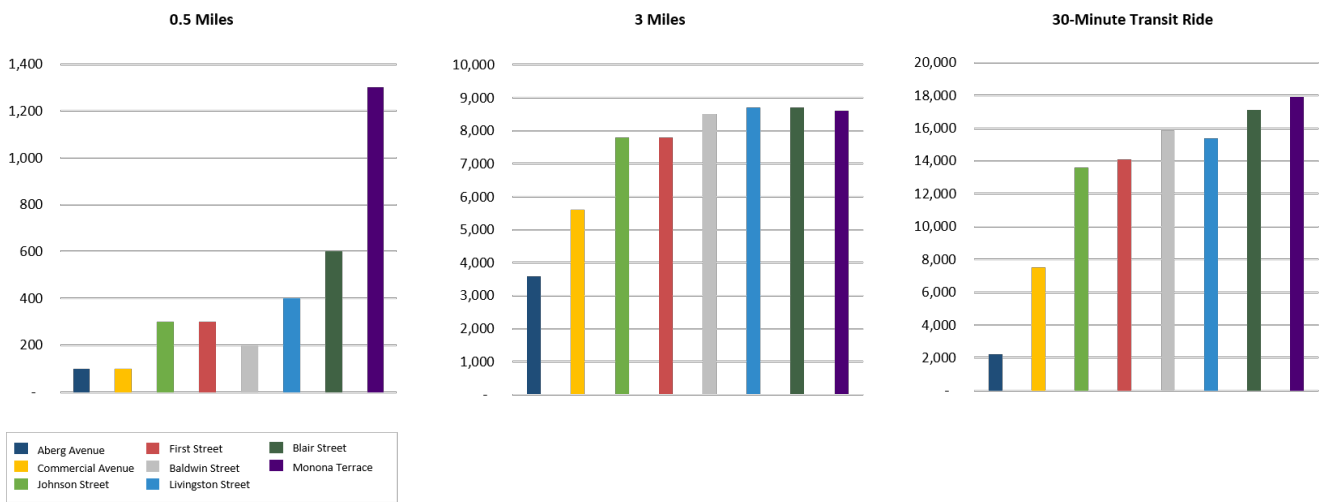
Source: U.S. Census Bureau (2020 Census and 2017-2021 American Community Survey)

Figure 6.17: Underserved Populations within a 30-Minute Transit Ride of Potential Station Sites



Source: U.S. Census Bureau (2020 Census and 2017-2021 American Community Survey)

Figure 6.17: Car-Free Households within 0.5-Miles, 3-Miles, and a 30-Minute Transit Trip of Potential Station Sites



Source: U.S. Census Bureau (2017-2021 American Community Survey)

Multimodal Connectivity

Access by walking, biking, and public transit is an important priority for a passenger rail station in Madison and will promote ridership both by residents and visitors, as well as reduce single occupancy vehicle trips to and from the station. Figure 6.18 shows the multimodal system in the area around the proposed station sites, including the under construction and planned bus rapid transit stations, BCycle bikeshare stations, bike infrastructure, and sidewalks.

Figure 6.18: Existing Multimodal Infrastructure Near Potential Station Sites

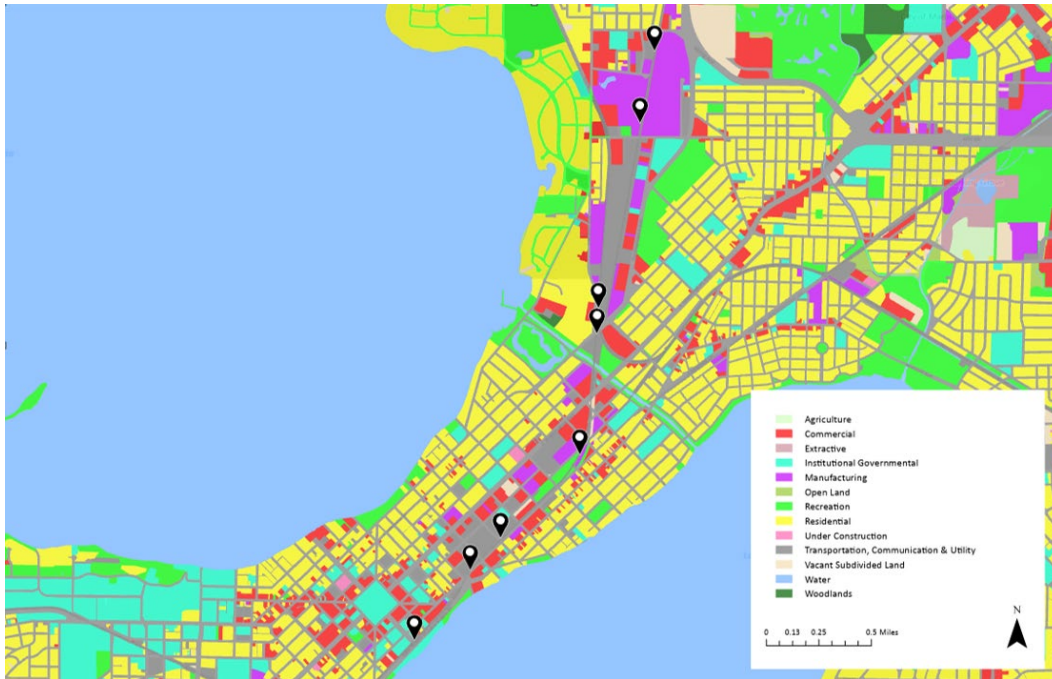


Source: Madison Area MPO and City of Madison

Land Use and Development

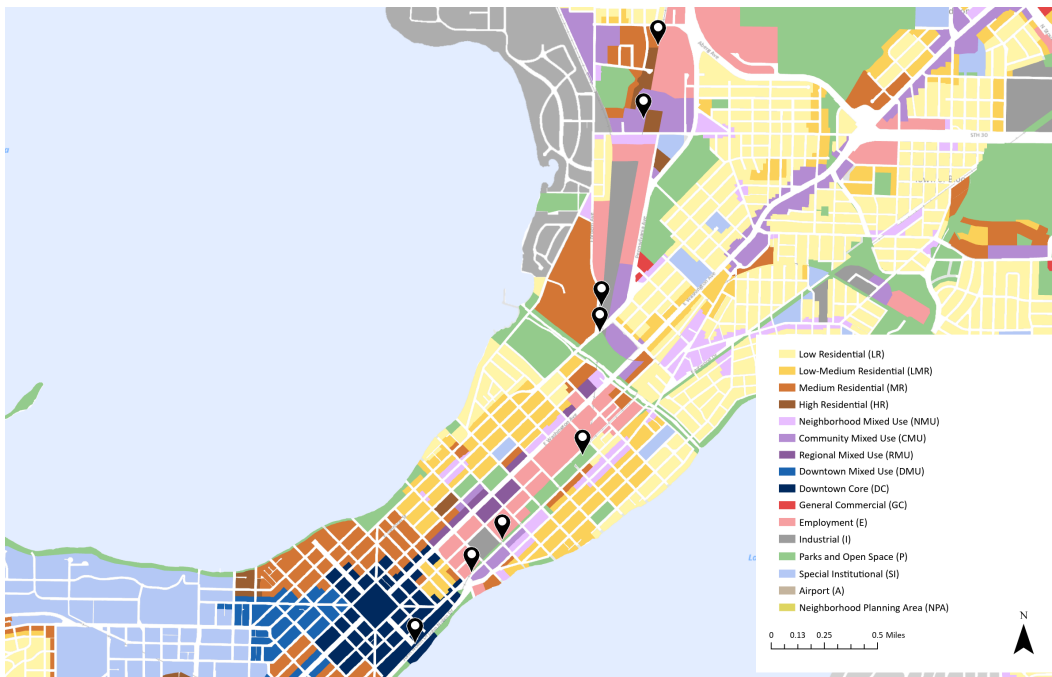
Land uses that are generally complimentary to passenger rail stations include mixed use development (with commercial, employment, and residential uses), multifamily residential development, civic areas, colleges and universities, and tourist destinations. Figure 6.19 shows the existing land uses surrounding the potential station sites and Figure 6.20 shows the City's Generalized Future Land Use map, which specifically highlights areas that are planned to change land uses.

Figure 6.19: Existing Land Use



Source: Madison Area MPO and City of Madison

Figure 6.20: Generalized Future Land Use



Source: Madison Area MPO and City of Madison

[Preliminary] Site Evaluations

Figures 6.21 through 6.28 show the preliminary evaluations for each potential station site. The criteria are not weighted at this time, nor are they listed in any particular order. A total score and/or a rating of total scores does not represent a determination of the recommended station site(s).

Figure 6.21: Preliminary Evaluation – Monona Terrace Site

Evaluation Criteria	Notes	Preliminary Rating
Train Access and Operations	No known operational issues; would need to service train off-site; longest distance from Milwaukee	● ● ● ○ ○
Site Size and Configuration	Would accommodate 700 ft platform; construction could be challenging; limited expansion opportunities	● ● ● ○ ○
Site Ownership and Control	Agreement with State of Wisconsin would be needed	● ● ● ● ○
Proximity to People, Jobs, Destinations	Proximity to downtown and nearest site to campus; close to popular visitor destinations	● ● ● ● ●
Equitable Access	Highest number of underserved pop within travel shed	● ● ● ● ●
Access and Multimodal Connectivity	High level of multimodal connectivity surrounding site; parking and pick ups and drop offs by automobile will be challenging	● ● ● ○ ○
Environmental Resources	No expected impacts to environmental resources	● ● ● ● ●
Land Use and Development	Compatible with surrounding land use, local plans; complimentary activity generators; would not be expected to spur new economic development but would support downtown economy and tourism	● ● ● ● ○

Figure 6.22: Preliminary Evaluation – Blair Street Site

Evaluation Criteria	Notes	Preliminary Rating
Train Access and Operations	No known operational issues, train would block Blount Street; train could be serviced onsite with closure	● ● ● ○ ○
Site Size and Configuration	Would accommodate 700 ft platform; Cap City Trail intersection may need to be modified; some expansion likely feasible	● ● ● ● ○
Site Ownership and Control	Development would require partnership with private landowner—timing appears favorable, but costs unknown	● ● ● ○ ○
Proximity to People, Jobs, Destinations	Proximity to campus and downtown = high ridership potential; close to popular visitor destinations	● ● ● ● ●
Equitable Access	High number of underserved pop within travel shed	● ● ● ● ○
Access and Multimodal Connectivity	High level of multimodal connectivity surrounding site, parking could be accommodated on-site	● ● ● ● ●
Environmental Resources	No expected impacts to environmental resources	● ● ● ● ●
Land Use and Development	Compatible with surrounding land use, local plans; complimentary activity generators; could help spur economic development on-site	● ● ● ● ●

Figure 6.23: Preliminary Evaluation – Livingston Street Site

Evaluation Criteria	Notes	Preliminary Rating
Train Access and Operations	No known operational issues, train would block Livingston Street; service and layover would need to occur off-site	● ● ● ○ ○
Site Size and Configuration	Site could accommodate a 580' platform; ideally station building is integrated into larger development, but could be challenging if station is not integrated	● ● ○ ○ ○
Site Ownership and Control	Site is privately owned but likely to be redeveloped in the near-future; lease agreement would be needed for station building and access; environmental remediation work may be needed	● ● ○ ○ ○
Proximity to People, Jobs, Destinations	Moderate-high proximity to downtown and popular visitor destinations, with growing population, and employment populations nearby	● ● ● ● ○
Equitable Access	High number of underserved populations within travel shed	● ● ● ● ○
Access and Multimodal Connectivity	High level of multimodal connectivity surrounding site	● ● ● ● ●
Environmental Resources	No expected impacts to environmental resources	● ● ● ● ●
Land Use and Development	Existing concentration of utility land uses on-site and directly surrounding not compatible; plans and nearby proposals would create more complimentary activity generators; could help spur economic development on-site	● ● ● ○ ○

Figure 6.24: Preliminary Evaluation – Baldwin Street Site

Evaluation Criteria	Notes	Preliminary Rating
Train Access and Operations	Train would stop on a track switch, would need to back out instead of flipping from push/pull, which would take more time, train would block the Few Street pedestrian crossing; service and layover would need to occur off-site	● ○ ○ ○ ○
Site Size and Configuration	Site could accommodate a 450' platform; additional safety provisions needed to accommodate connected park use	● ● ● ○ ○
Site Ownership and Control	Site is owned by the City of Madison and would require agreement with the parks department	● ● ● ● ●
Proximity to People, Jobs, Destinations	Moderate proximity to downtown and popular visitor destinations, with growing population, and employment populations nearby	● ● ○ ○ ○
Equitable Access	Moderate number of underserved populations within travel shed	● ● ● ● ○
Access and Multimodal Connectivity	High level of multimodal connectivity surrounding site, parking would need to be identified and could be challenging	● ● ● ● ○
Environmental Resources	Since the site would impact a park, a Section 4(f) Evaluation would likely need to be completed, although not expected to be problematic	● ● ● ● ○
Land Use and Development	Adjacent low density residential land use not particularly compatible, although commercial land use also adjacent; compatible with comp plan which recommends commuter rail station at site	● ● ● ○ ○

Figure 6.25: Preliminary Evaluation – First Street Site

Evaluation Criteria	Notes	Preliminary Rating
Train Access and Operations	Stopping on a curve between two streets not optimal—will require design justification and exceptions; no ability to serve trains from south and no expansion opportunity	● ● ○ ○ ○
Site Size and Configuration	Site could accommodate a 400’ platform (smallest of all); would likely impact parking/traffic flow of public market visitors and likely result in related design constraints	● ● ● ○ ○
Site Ownership and Control	Site is owned by the City of Madison and would require collaboration with Madison Public Market	● ● ● ● ○
Proximity to People, Jobs, Destinations	Lower proximity to downtown; although new development occurring nearby; fewer visitor destinations nearby	● ● ○ ○ ○
Equitable Access	Moderate number of underserved populations within travel shed	● ● ● ○ ○
Access and Multimodal Connectivity	High level of multimodal connectivity surrounding site, distance from parking could be challenging	● ● ● ● ○
Environmental Resources	No expected impacts to environmental resources	● ● ● ● ●
Land Use and Development	Utility and industrial uses in area not particularly compatible, but recent development of more commercial and multifamily housing would be more compatible; compatible with local plans; could support Madison Public Market or other nearby developments	● ● ● ○ ○

Figure 6.26: Preliminary Evaluation – Johnson Street Site

Evaluation Criteria	Notes	Preliminary Rating
Train Access and Operations	No known operational issues; well situated for future extension to Twin Cities; less travel time compared with Downtown options; train servicing and layover could be accommodated on site	● ● ● ● ●
Site Size and Configuration	Site could accommodate a 700’ platform;	● ● ● ● ●
Site Ownership and Control	Site is privately owned—station could be integrated into larger redevelopment as part of a public-private partnership; site is currently for sale and being actively marketed	● ● ○ ○ ○
Proximity to People, Jobs, Destinations	Lower proximity to downtown; although new development occurring nearby; fewer visitor destinations nearby	● ● ○ ○ ○
Equitable Access	Moderate number of underserved populations within travel shed	● ● ● ○ ○
Access and Multimodal Connectivity	Moderate level of multimodal connectivity surrounding site-- parking could be accommodated on-site in a shared-use garage	● ● ● ● ○
Environmental Resources	No expected impacts to environmental resources	● ● ● ● ●
Land Use and Development	Utility and industrial uses in area not particularly compatible, but recent development of more commercial and multifamily housing would be more compatible; compatible with local plans; could support Madison Public Market or other nearby developments; opportunity for mixed-use development PPP	● ● ● ● ○

Figure 6.27: Preliminary Evaluation – Commercial Avenue Site

Evaluation Criteria	Notes	Preliminary Rating
Train Access and Operations	No known operational issues; train servicing and layover could be accommodated on site	● ● ● ● ●
Site Size and Configuration	Site could accommodate a 700’ platform; very flexible in accommodating all site needs with additions such as intercity bus stop	● ● ● ● ●
Site Ownership and Control	Site is privately owned but likely to be redeveloped in the near-future; lease agreement would be needed for station building and access	● ● ● ○ ○
Proximity to People, Jobs, Destinations	Low proximity to downtown and other job/population/destination centers; although new development beginning to occurring nearby; far from most visitor destinations	● ● ○ ○ ○
Equitable Access	Lowest number of underserved populations within travel shed	● ● ○ ○ ○
Access and Multimodal Connectivity	Moderate level of multimodal connectivity surrounding site—not currently a walkable area; parking could be accommodated on-site; within walk shed of BRT, but ped accommodations needed	● ● ○ ○ ○
Environmental Resources	No expected impacts to environmental resources	● ● ● ● ●
Land Use and Development	Pending residential development nearby makes surrounding land use more compatible; compatible with local plans; good opportunity to spur economic development;	● ● ● ○ ○

Figure 6.28: Preliminary Evaluation – Aberg Avenue Site

Evaluation Criteria	Notes	Preliminary Rating
Train Access and Operations	No known operational issues	● ● ● ● ●
Site Size and Configuration	Site could accommodate a 700' platform; train servicing and layover could be accommodated on site	● ● ● ● ●
Site Ownership and Control	Site is privately owned, but City has lease with right of first refusal—station could be integrated into larger redevelopment as part of a public-private partnership	● ● ● ● ○
Proximity to People, Jobs, Destinations	Low proximity to downtown and other job/population/destination centers; although new development beginning to occurring nearby; far from most visitor destinations	● ● ○ ○ ○
Equitable Access	Lower number of underserved populations within travel shed	● ● ○ ○ ○
Access and Multimodal Connectivity	Moderate level of multimodal connectivity surrounding site—not currently a highly walkable area; parking could be accommodated on-site in a shared use garage; within walk shed of BRT, but ped accommodations needed	● ● ○ ○ ○
Environmental Resources	No expected impacts to environmental resources	● ● ● ● ●
Land Use and Development	Pending residential development nearby makes surrounding land use more compatible; compatible with local plans; good opportunity to spur economic development	● ● ● ○ ○

7. Recommended Station Site(s)

[To be completed in the next phase of the study.]