Connecting our Communities.

Summary Report for Evaluation of Downtown Ann Arbor North-South Commuter Rail (WALLY) Station Sites

July 2014
Evaluation of Downtown Ann Arbor North-South Commuter Rail (WALLY) Station Sites

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North-South Commuter Rail Overview

The North-South Commuter Rail service (also referred to by the name “WALLY, for Washtenaw and Livingston Counties, which it would serve) is a proposed 27-mile long commuter rail service that would connect Ann Arbor and Howell, with several intermediate stops. It is being developed as a cost-effective alternative to ease traffic congestion along US-23 between Howell and Ann Arbor and to promote economic development and job creation in the region.

Highlights

• Tracks and right-of-way currently owned by Michigan Department of Transportation and WATCO Companies, LLC
• Stops planned at Howell, Genoa Twp., Hamburg Twp., Whitmore Lake and Ann Arbor
• Four trains/day in each direction providing AM and PM service
• Connecting buses in Ann Arbor will serve the North Campus, the Medical Center, and downtown
• More than 1,200 commuters are expected to ride North-South Commuter Rail every weekday; estimated it will take about 60 minutes

North-South Commuter Rail is supported by a coalition of local public and private organizations in Washtenaw and Livingston counties that are working with the Michigan Department of Transportation (MDOT) to provide commuting options in the heavily growing areas. The coalition is facilitated by the Ann Arbor Area Transportation Authority (TheRide) serving as the designated authority.
How does North-South Commuter Rail relate to other local projects?

Ann Arbor’s Model for Mobility

In June 2006, Mayor John Hieftje introduced his “Model for Mobility,” a transportation vision for the City of Ann Arbor. Key elements of this transportation vision include alternative forms of transportation such as walking and bicycling, but also expand on the City’s bus, rail and train system to support a more regional mode of mobility and reduce Ann Arbor’s over reliance on auto travel.

The Mayor has outlined three key components of the Model for Mobility vision:

• An east-west regional transit route that would link the central core of Ann Arbor, including the downtown, University of Michigan Central Campus and the University of Michigan Medical Center, with communities in southeast Michigan.
• A north-south rail connection that would use existing railways between Ann Arbor, Milan and Howell.
• A local connector system that would link the two regional railroads, with a local streetcar system running from west to east through the downtown, across the Central, Medical and North campuses of the University of Michigan.

“In order to continue the smart growth of our community it is essential that we use all of our existing infrastructure before we build more.”

Mayor Hieftje
How does the North-South Commuter Rail relate to other local projects?

East-West Commuter Rail

This project implements one of the key recommendations from Southeast Michigan Council of Governments (SEMCOG) Improving Transit in Southeast Michigan: A Framework for Action plan (2001). The project will provide commuter rail service between Ann Arbor and Detroit which is a segment of the Pontiac-Detroit-Chicago Amtrak corridor. As a result much of the existing infrastructure is in place and will be used whenever possible.

The current project is to provide commuter rail service in the Detroit-Ann Arbor corridor with stops in Ann Arbor, Ypsilanti, Detroit Metropolitan Airport, Dearborn, and Detroit. The project takes advantage of existing infrastructure where possible and requires adding new station stops in Ypsilanti and at Detroit Metro Airport.

The project is being managed by SEMCOG along with partners that include representatives of all communities in the corridor, Wayne and Washtenaw County officials, state and federal representatives, the Michigan Department of Transportation, the local transit operators (AAATA, DDOT, and SMART), Amtrak, representatives of Norfolk Southern (NS) and Canadian National (CN) Railroads, and members of the business community.
How does the North-South Commuter Rail relate to other local projects?

The Connector

The Connector is a developing plan for high-capacity transit in an arc from northeast to south Ann Arbor, connecting major destinations including downtown, University of Michigan campuses and medical center, and commercial areas.

A Feasibility Study determined that a Connector is technically feasible and that the number of people expected to use The Connector warrants a high-capacity system. The Connector would support a sustainable system of transportation and land use consistent with the City of Ann Arbor Master Plan.

The Feasibility Study identified four potential transportation modes that would best meet the needs of the community:

- Bus
- Bus rapid transit
- Light rail transit
- Automated guideway transit

As of this writing, the feasibility study is complete and an Alternatives Analysis is underway.
Characteristics of Commuter Rail

Commuter rail service typically consists of a locomotive pulling or pushing passenger cars over a distance ranging from 25 to 50 miles with stations about 5 miles apart. Commuter rail service is specifically designed to move people as an alternative to congested freeway travel and provides the following:

- Connects suburbs/outlying communities to city centers
- Larger trains – more seating for passengers and less standing room
- Trains run at specific times, not intervals
- Fewer stations, spaced farther apart, less stops
- Frequently shares track with freight service
Typical Commuter Rail Station Elements

There are several elements that are essential to the operation of commuter rail stations. Others elements are considered optional.

Critical Station Elements
- Platform
- ADA access
- Access to other forms of transportation
- Shelters
- Signage and wayfinding
- Lighting
- Security
- Ticketing mechanisms
- Snow Removal

Optional Station Elements
- Waiting room/building
- Ticketing counter
- Restrooms
- Concessions
- Parking
- Heated shelters
- Electronic signage
Evaluation of Downtown Ann Arbor North-South Commuter Station Sites

Study Purpose

The purpose of this study is to evaluate the feasibility of locating a North-South Commuter Rail Station in downtown Ann Arbor. This would be south of, and in addition to, the Plymouth Road station which is planned as the primary site for use by University of Michigan Hospital employees.

The scope of this effort included numerous coordination meetings with respective agencies and organizations, collection and review of existing rail and adjacent land use conditions, development of commuter rail station evaluation criteria, two community meetings and preparation of a preliminary and final report.

Funding for this research and development study is provided by a Federal Transit Administration Section 5304 grant along with contributions from Howell, Ann Arbor DDA, Washtenaw County. There are no local or Ann Arbor tax dollars funding this effort.
Evaluation of Downtown Ann Arbor North-South Commuter Station Sites
Steering Committee

A Steering Committee was formed to provide guidance on the study, to review study findings and to concur on study results. The committee was comprised of representatives from state and local agencies and organizations with specific interest in the operation of this commuter rail service including:

Kris Foondle  MDOT Rail
Kammy Frayre  MDOT Transportation Services
Michael Benham  TheRide, Strategic Planner
Eli Cooper  City of Ann Arbor, TheRide Board
Jeff Kahan  City of Ann Arbor
Roger Hewitt  Ann Arbor DDA
Sue Gott  University of Michigan Planner, TheRide Board
Steve Dolan  University of Michigan Transportation and Parking
Ryan Buck  Washtenaw Area Transportation Study
Alex Bourgeau  Southeast MI Council of Governments
Larry Krieg  RTA Citizens Advisory Council, TheRide Board
Evaluation of Downtown Ann Arbor North-South Commuter Station Sites
Goal and Objectives

Goal:
Identify an optimal location(s) for an Ann Arbor North-South commuter rail station that brings the most benefit to the community and users of the service

Objectives:
• Collaborate with a Steering Committee, interested parties and the public to obtain input and information about rail service and potential station sites

• Develop a tiered screening process and an evaluation matrix to guide assessment of potential station sites and document conditions associated with selection criteria
Evaluation of Downtown Ann Arbor North-South Commuter Rail Station Sites

Community Meetings

Two community meetings were held to provide the opportunity for public engagement and input into the process. In addition, the presentations for each of these meetings was posted on the AAATA project website.

**Community Meeting #1:** Tuesday, October 8, 2013. 7:00 – 9:00 PM
Ann Arbor Community Center, 625 North Main Street, Ann Arbor, MI

Items discussed:
Project overview, goals and objectives, commuter rail station elements + numerous questions about bus/train service and project funding.

**Community Meeting #2:** Wednesday, December 4, 2013. 7:00 – 9:00 PM
Ann Arbor Community Center, 625 North Main Street, Ann Arbor, MI

Items discussed:
Project overview, goals and objectives, alternative station sites, preliminary evaluation matrix + numerous questions about bus/train service and project funding
The +/- 7,000 foot study corridor extends from Summit St. south to Hill St.

Tracks and railroad right-of-way along this segment are currently owned by WATCO Companies, LLC. On this line, WATCO serves the automotive industry as well as a full range of commodities such as bulk materials, paper, lumber and petroleum.
Evaluation of Downtown Ann Arbor North-South Commuter Station Sites
Existing Conditions: Road Crossings

Within the project limits there are nine at-grade and four grade-separated (rail elevated over road) road crossings.

At-grade
- Summit
- Liberty
- First
- William
- Ashley
- Jefferson
- Main
- Madison
- Hill

Grade-separated
- Felch
- Miller
- Huron
- Washington
Evaluation of Downtown Ann Arbor North-South Commuter Station Sites
Existing Conditions: Adjacent Parcels
Evaluation of Downtown Ann Arbor North-South Commuter Station Sites
Existing Conditions: City of Ann Arbor Parcels
Evaluation of Downtown Ann Arbor North-South Commuter Station Sites
Existing Conditions: Allen Creek Floodplain = Floodway + Flood Fringe

**Floodway**
Area reserved to pass the base, 100-year flood flow without increasing flood depths; most dangerous part of floodplain, associated with moving water.

**Flood Fringe**
Portion of floodplain outside the floodway; generally associated with standing water.
The physical and operational requirements associated with platform + clear zone, track curvature and floodplain represent the first level of screening used to identify segments of the project corridor that meet the minimum criteria for siting a commuter rail station. A description of each element follows.
Evaluation of Downtown Ann Arbor North-South Commuter Station Sites
Physical/Operational Requirements: Preference for 645 ft. footprint (platform + locomotive + clear zone)

- 380’ platform (4 cars x 85’ + 40’ braking margin) + 65’ locomotive + 100’ clear at each end
- Clear zone for safe site distances to road crossings and to allow proper grade crossing warning system functionality
- Undesirable to block roads while train in station
Evaluation of Downtown Ann Arbor North-South Commuter Station Sites
Physical/Operational Requirements: Preference for 645 ft. footprint (platform + locomotive + clear zone)

The circled segments all meet or exceed the 645’ minimum platform + clear zone dimension. The track is elevated over Washington allowing the Huron to Washington and Washington to Liberty segments to be combined.
Evaluation of Downtown Ann Arbor North-South Commuter Station Sites
Physical/Operational Requirements: Preference for maximum 1° 40' track curvature (+/- 3,400' radius)

- Metra* Commuter Rail Station Guidelines and Standards 8/29/2007
- Passenger rail cars are a 60' tangent between trucks (wheels):
  • middle of car is closer to platform than ends of car on inside of curve
  • middle of car is further from platform than ends of car on outside of curve

* Metra is the commuter rail authority in the Chicago metropolitan area.
A majority of the corridor within the project limits is less than the preferred maximum track curvature. Two segments, one on the curve at the bridge over the Argo Dam and the other between Miller and Washington are eliminated from the study.
Evaluation of Downtown Ann Arbor North-South Commuter Station Sites
Physical/Operational Requirements: Preference for no at-grade track in the Allen Creek floodplain

- Difficult to permit platform/shelter construction in floodplain
- Requires floodway analysis and compensatory cut
- Allen Creek from William Street to Huron River outlet under Michigan Department of Environmental Quality (MDEQ) jurisdiction
The northern half of the corridor is elevated on an embankment above the Allen Creek floodplain. The tracks come down to existing grade at Liberty and extend at grade to Hill St.

The segments shown in yellow meet the criteria for no at-grade track in the Allen Creek floodplain.
Evaluation of Downtown Ann Arbor North-South Commuter Station Sites
Physical/Operational Requirements: Summary

Overlaying the data associated with the three physical/operation requirements allows identification of segments that are suitable for a commuter rail station.
Based on the preference for:
- 645' platform/clear zone footprint
- maximum 1° 40' track curvature (3,400’ radius)
- no at-grade track in the Allen Creek floodplain,

four segments were identified that met the minimum criteria. Parcels adjacent to these segments will be evaluated as potential station site alternatives.
Evaluation of Downtown Ann Arbor North-South Commuter Station Sites

Zoning adjacent to the proposed segments could be an important element in selecting potential sites as it relates to anticipated future use and recommended development density.

D1 – Downtown Core
D2 – Downtown Interface
M1 – Limited Industrial
PL – Public Land
The Blake Transit Center on Fourth Ave. was used as the central point to estimate walking radius. This comparison provides an assessment of walking time from each of the identified segments. While the Blake Transit Center may not be the geographic center of the city, it could be a destination for commuters seeking transit service to sites beyond an easy walking distance. University of Michigan Hospital employees will likely utilize the proposed station at Barton Road where buses are planned to pick them up.
Evaluation of Downtown Ann Arbor North-South Commuter Station Sites
Identification of Alternative Sites
An analysis of parcels adjacent to the four segments that met the minimum physical/operational requirements yielded six potential sites for a downtown Ann Arbor North-South Commuter Rail station. Each site was selected for its ability to accommodate some level of station development outside of the rail ROW with minimal impacts or displacements.
Evaluation of Downtown Ann Arbor North-South Commuter Station Sites
Site Alternative 1: Hiscock

Existing Use
Commercial vehicle towing operation

Pro
• At-grade rail access
• Adjacent zoning:
  M1 – Limited Industrial
  PL – Public Land

Con
• Privately-owned parcel(s)
• Hiscock – Local road
• Single-family neighborhood to north and west

Other
• 18 min. walk to downtown

Looking south from Hiscock
721 North Main was historically used by the City’s Department of Public Works as a fleet maintenance yard. The use has been relocated and a portion of the site is now used for daily parking. Recently, Ann Arbor City Council formed the North Main-Huron River Vision Task Force and charged them with identifying improvements for the North Main corridor, which includes 721 North Main. Their recommendation for this parcel is found on the next page.
The North Main-Huron River Vision Task Force identified a proposed use for a 721 North Main that includes a passive park on a majority of the site. However, the task force determined the northwest corner of the property should be designated as a “Future Use Zone”. As part of this study, the western-most portion of this area, shaded in red, would be considered for development of a commuter rail station.
Evaluation of Downtown Ann Arbor North-South Commuter Station Sites
Site Alternative 2: 721 North Main

Pro
- City-owned parcel
- Adjacent zoning:
  - M1 – Limited Industrial
  - PL – Public Land

Con
- Elevated/steep embankment
- Poor vehicular access/circulation
- Single-family neighborhood to north and west

Other
- Summit – Collector road
- 15 min. walk to downtown
Evaluation of Downtown Ann Arbor North-South Commuter Station Sites
Site Alternative 3: Felch

Existing Use
Wholesale panel and lumber sales

Pro
- Adjacent zoning:
  M1 – Limited Industrial
  D2 – Downtown Interface

Con
- Privately-owned parcel(s)
- Elevated/steep embankment
- No at-grade rail access
- Poor vehicular access/circulation would require building demolition
- Single-family neighborhood to west

Other
- Felch – Local road
- 15 min. walk to downtown
Evaluation of Downtown Ann Arbor North-South Commuter Station Sites
Site Alternative 4: Miller

Existing Use
Multi-office facility

Pro
• Good vehicular access/circulation but could affect existing parking
• Adjacent zoning:
  M1 – Limited Industrial
  D2 – Downtown Interface
  C1 – Local Business

Con
• Privately-owned parcel
• Elevated/steep embankment
• No at-grade rail access

Other
• Miller – Minor Arterial road
• 12 min. walk to downtown
Evaluation of Downtown Ann Arbor North-South Commuter Station Sites
Site Alternative 5: Washington/Liberty (platform west)

Pro
- City-owned parcel to west
- At-grade rail access at Liberty
- Good vehicular access/circulation
- Adjacent zoning:
  - D2 – Downtown Interface
  - PUD – Planned Unit Development
  - PL – Public Land

Con
- Elevated/steep embankment midway between Liberty/Washington
- The 10’6” clearance on the Washington St. overpass limits bus circulation to the east
- Single-family neighborhood to west
- Commuters with downtown destinations must cross Tracks

Other
- Liberty – Minor Arterial road
- Existing bus service on Liberty
- 7 min. walk to downtown
Pro
• At-grade rail access at Liberty
• Commuters with downtown destinations don’t cross tracks
• Good vehicular access/circulation
• Adjacent zoning:
  D2 – Downtown Interface
  PUD – Planned Unit Development
  PL – Public Land

Con
• Elevated/steep embankment midway between Liberty/Washington

Other
• A minimal station could be developed w/i the rail ROW; a building outside of the ROW would require use of a private parcel.
• Liberty – Minor Arterial road
• Existing bus service on First
• 7 min. walk to downtown

Evaluation of Downtown Ann Arbor North-South Commuter Station Sites
Site Alternative 5: Washington/Liberty (platform east)
Evaluation of Downtown Ann Arbor North-South Commuter Station Sites
Site Alternative 6: Hill

Existing Use
Commercial lumber sales

Pro
• At-grade rail access
• Good vehicular access
• Located on Connector route alternatives C and D
• Adjacent zoning:
  M1 – Limited Industrial
  D2 – Downtown Interface

Con
• Privately-owned parcel
• Single-family neighborhood to west

Other
• Hill – Collector road
• 9 min. walk to downtown
Evaluation of Downtown Ann Arbor North-South Commuter Station Sites
Site Selection Evaluation Criteria: Weighting/Scoring

An evaluation matrix was developed to evaluate and compare the qualities and characteristics of each of the alternative sites. Evaluation topics included the following:

- Environmental – relating to natural features such as wetland/woodlands and floodplain,
- Land & Land Use – relating to parcel ownership, adjacent land use and potential to generate economic development,
- Transportation – relating to proximity to transit, greenways and commute time, and
- Site Development – relating to site access, generalized site development costs, potential for expansion and proximity to parking.

Each of the criteria within the identified topics were weighted 1, 2 or 4 indicating their level of importance in the site selection process. This was followed by a scoring, from 1-3, for each criteria. This resulted in a sum of the total score as well as a weighted average providing a means to compare each site.

The evaluation criteria, weighting and scoring were reviewed by the Steering Committee and the public in a community meeting with minor revisions and clarifications made.
## Site Selection Evaluation Criteria: Weighting/Scoring

### Table 1: Site Selection Evaluation Criteria

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<th>Criteria</th>
<th>Weight (1-3.0)</th>
<th>Score (1-10)</th>
<th>Notes</th>
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<td>a. Number of Percent Desired</td>
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### Notes:

1. Sites that require regular construction in the pedestrian path were eliminated as part of the last segment selection criteria. Sites with elevated tracks in the footprint are potentially accommodated construction without. Boundaries impact and tracings are not considered.

2. Rail development is subject to schedule, not expected. An average travel speed of 31 mph (50 km/h) was used for the calculations.

3. Although a specific alignment has not been determined for the Ann Arbor Greenway, it is assumed that all the alignment area will be similarly and appraisal recommendations are made accordingly.

4. All station alignments are subject to change. The alignment changes are the subject to change. The alignment changes are subject to the decisions of the stakeholders.

5. Rail stations provide access to property and have a lower overall noise profile.

6. It is assumed that the愿is facility is located within a 100m radius of Ann Arbor and that all rail and noise considerations will need to be investigated.

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**July 1, 2014**

SMITHEGROUPJR | QUANDEL CONSULTANTS
**Evaluation of Downtown Ann Arbor North-South Commuter Station Sites**

**Preferred Site: Washington/Liberty**

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<td>Highest Weighted Average</td>
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### Environmental

1. *Kissell/Hammar/Westacreme*
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty

2. *Lumsden & Lumsden*
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty

3. *Phase 1, 2 & 3*
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty

### Transportation

1. *Connect to Bike Trail Center (East-West, East-West)*
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty

2. *Connect to toll road (center, center)*
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty

3. *Access to I-94/96 Route***
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty

### Pedestrian Access

1. *Pedestrian Access into Downtown Ann Arbor*
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty

### Site Development

1. *Israelite Development*
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty
   - Washington/Liberty

### Summary

- **Washington/Liberty** achieves the highest weighted average score of 3.3, making it the preferred site for the North-South Commuter Station in Downtown Ann Arbor.
- The other sites (Kissell/Hammar/Westacreme, Lumsden & Lumsden, Phase 1, 2 & 3, Lumsden & Lumsden, and Phase 1, 2 & 3) also receive high scores, indicating their suitability for the project.
- Transportation connectivity, pedestrian access, and site development were key factors in the evaluation process.
Evaluation of Downtown Ann Arbor North-South Commuter Station Sites
Washington/Liberty Alternative 1: Minimal Station West

This option is based on development of the commuter rail station within the limits of the existing railroad ROW to the greatest extent possible with a 380’ platform on the west side of the tracks and a 100’ clear zone north of Liberty.

This option includes three shelters, one in the center and one at each end. The center shelter, elevated above grade, uses steps to access Washington or a walk parallel to the tracks to access Liberty. The steps would require construction outside of the railroad ROW within the Allen Creek floodway. The northern shelter uses a ramp, partially in the Allen Creek floodway, to access Washington while the southern shelter uses a walk parallel to the tracks to Liberty. Auto/taxi staging is located on Washington and bus staging occurs on First. Existing AAATA bus stops are accessed at Liberty.

As shown, this option could use either a pull or push mode, with the locomotive in the front or back, pushing or pulling the train cars depending on the direction of travel. This would also depend, among other things, on operational variables such as location of the midday layover facility.

This option has been eliminated due to construction needs outside of the railroad ROW and the potential for floodway impacts. As noted on pages 14 and 22, the floodway is much more extensive west of the tracks than east. In addition, the need for users accessing Liberty to cross over the tracks for downtown destinations creates a potential safety concern. Also, there have been long term discussions regarding use of the property west of the railroad to accommodate the proposed Allen Creek Greenway. While there are no definite plans for the greenway at this time, a west side station could interfere with future greenway construction.
Evaluation of Downtown Ann Arbor North-South Commuter Station Sites
Washington/Liberty Alternative 2: Minimal Station East

This option is based on development of the commuter rail station entirely within the limits of the existing railroad ROW with a 380’ platform on the east side of the tracks and a 100’ clear zone north of Liberty.

This option includes three shelters, one in the center and one at each end. The center shelter, elevated above grade, uses steps to access Washington, in an area where the ROW widens, or a walk parallel to the tracks to access Liberty. The northern shelter uses a ramp to access Washington while the southern shelter uses a walk to Liberty. Auto/taxi staging is located on Washington and bus staging occurs on First. Existing AAATA bus stops are accessed at Liberty.

As shown, this option could use either a pull or push mode, with the locomotive in the front or back, pushing or pulling the train cars depending on the direction of travel. This would also depend, among other things, on operational variables such as location of the midday layover facility.

This option is preferred over Option 1 because construction is limited to the railroad ROW, there are minimal floodplain impacts and riders with destinations downtown are not required to cross the tracks.
The northern half of this segment between Washington and Liberty is located on track elevated on an embankment above adjacent grade. Where this occurs, a retaining wall is required to create a space for development of the station and platform facilities. Alternatively, the facilities could be built on piles in this location as a potentially less costly solution. Such construction would prevent the need for fill in the Allen Creek floodplain. The dimensions identified in this section are typical for passenger rail stations located on rail lines that are shared with freight operations.

Note: The floodplain elevation shown is meant to represent the relationship between station improvements and the floodplain itself. It is not based on the established elevation in this location.
This section shows the stairs down to Washington north of the center platform in a location where the rail ROW widens to approximately 60 feet. There appears to be potential for minor floodplain impacts in this location. Construction projects within the floodplain require a permit from the Michigan Department of Environmental Quality (MDEQ). Flood flow may not be obstructed in a manner that causes a rise in flood elevations at the property line. The State, County, and City all require not net loss of flood storage capacity (i.e. no fill without compensatory cut). The extent of these impacts cannot be determined with the accuracy of the data available at this level of analysis.

Note: The floodplain elevation shown is meant to represent the relationship between station improvements and the floodplain itself. It is not based on the established elevation in this location.
A second option for station development on the east side of the tracks includes shortening the platform from 380’ to approximately 315’ to avoid significant costs associated with constructing an elevated platform over Washington. This option would also shorten the clear zone north of Liberty from 100’ to 80’.

Operationally, this option would require a careful alignment of the passenger cars upon arrival to provide platform access. The center door of the last car would be aligned with the platform leaving the tail end of the car beyond. This option would also require a push mode for the locomotive in the morning commute and a pull mode in the evening commute in order to maximize passenger car alignment with the shorter platform.

This option includes two shelters with a north ramp access to Washington and a south sidewalk to Liberty.

Auto/taxi staging is located on Washington and bus staging occurs on First. Existing AAATA bus stops are accessed at Liberty.

The benefit of this option is that it meets operational requirements while drastically reducing construction costs.
This section shows the ramp access to Washington north of the center platform. There appears to be potential for minor floodplain impacts in this location. Construction projects within the floodplain require a permit from the Michigan Department of Environmental Quality (MDEQ). Flood flow may not be obstructed in a manner that causes a rise if flood elevations at the property line. The State, County, and City all require not net loss of flood storage capacity (i.e. no fill without compensatory cut). The extent of these impacts cannot be determined with the accuracy of the data available at this level of analysis.

Note: The floodplain elevation shown is meant to represent the relationship between station improvements and the floodplain itself. It is not based on the established elevation in this location.
An alternative to development of a minimal train station within the limits of the railroad ROW is presented by the opportunity for a public-private partnership within a parcel on the block between Washington and Liberty north of the railroad track. The partnership could be realized through shared use of the parcel with a station at track level, including ADA access from the street, and retail along the First Ave. frontage. Such a strategy could be the result of a rehab of an existing building or the redevelopment of an entire site and could potentially require coordination between the City and a private developer. Regardless of the coordination required, this would represent a very unique development opportunity that could stimulate additional development/redevelopment in this part of the City.

Under this option, it is anticipated that auto/taxi staging would be located on Washington and bus staging would occur on First although the specifics of the redevelopment proposal could include several different staging alternatives. Existing AAATA bus stops are accessed at Liberty.

Note: The railroad ROW shown has been taken from a Track and Structures map provided by WATCO and laid over existing aerial photography from the City of Ann Arbor.
The Minimal Station East (shortened platform) was selected as the Preferred Option. As noted previously, the benefit of this option is that it meets operational requirements while drastically reducing construction costs.

A concept level estimate of probable construction costs has been prepared for the Minimal Station East (shortened platform) option. The planning efforts for this option have been based on aerial photo imagery and right-of-way data provided by WATCO. The probable construction costs shown on the next page are reflective of this level of base information. These costs are provided as a basis to understand the relative magnitude of construction and do not include any rail, signal or street improvements.
Note: The railroad ROW shown has been taken from a Track and Structures map provided by WATCO and laid over existing aerial photography from the City of Ann Arbor.

Evaluation of Downtown Ann Arbor North-South Commuter Station Sites
Washington/Liberty Preferred Option Summary

Concept Level Estimate of Probable Construction Costs

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**SUB-TOTAL**                      **$1,233,000.00**

| Survey, Borings and Engineering   | 15.00%| 1 | $184,950.00 |
| Permitting and Reviews & Construction Management | 5.00% | 1 | $61,650.00 |
| Contingency                       | 25.00%| 1 | $308,250.00 |

**TOTAL**                           **$1,787,850.00**
The Minimal Station East is the preferred option for development of a commuter rail station in downtown Ann Arbor. This is the most cost effective approach to providing the required station elements including:

- Adequate platform length and stopping clearance distances
- Platform shelters and canopies
- ADA lift/equipment storage
- ADA accessible ramp/sidewalk connections to Washington and Liberty
- Auto/taxi and bus staging

Next steps required to advance development of this alternative include:

- Coordination with WATCO to approve plan layout and details.
- Completion of a property boundary and topographic survey to serve as a basis for design development.
- Design/engineering to prepare construction details.
- Coordination with WATCO for work within the railroad ROW.
- Permitting for potential construction within the Allen Creek flood plain.

A future option would include a public-private partnership that would focus on development of a train station along the tracks integrated with retail on the First Ave. frontage for one of the parcels between Washington and Liberty.