2.0 Comparison of Alternatives and Selection of Preferred Alternative

This chapter presents the alternatives considered in this EA for the Silver Line BRT project: the No Action Alternative and the Locally Preferred Alternative. A summary of the Alternative Analysis process which preceded this study is also provided. It is followed by a discussion of a refinement to the Locally Preferred Alternative, reasons for eliminating other alternatives, and concludes with a detailed description of key elements of the Locally Preferred Alternative.

Selection of the Locally Preferred Alternative and the primary elements of the Silver Line BRT project resulted from the Great Transit Grand Tomorrows (GT2) Study completed in January 2007. This study evaluated a number of potential corridors in the greater Grand Rapids area for a future major transit investment. The scope of the GT2 study; the corridors and transit alternatives evaluated; the criteria used in their evaluation; and, reasons for eliminating other alternatives are described in Section 2.3. The study served as a regional forum to refine the multi-modal public transportation vision as part of the regional Long Range Transportation Plan. With acceptance of the transit recommendation, Bus Rapid Transit along the South (Division Avenue) Corridor, a subsequent evaluation of the Locally Preferred Alternative was undertaken to assess the merits of several alignment options within Downtown Grand Rapids. The Evaluation of Downtown Alternatives report (2009) documented this further analysis of the Locally Preferred Alternative, which resulted in the final alignment being considered in this EA.

In accordance with NEPA requirements, the No Action Alternative will continue throughout the EA process as a basis for comparison for potential impacts of the Locally Preferred Alternative.

2.1 No Action Alternative

The No Action Alternative will undertake no major transit system improvements or investments with the Division Avenue corridor. Rather, it will maintain the existing transit system currently in operation and include only routine maintenance of existing transit and roadway systems. Service would continue to operate at 15-45 minute headways in off-peak hours, and at 15-30 minute headways in peak-hour service. The Rapid would not increase its fleet of vehicles and transit service would continue to be provided with fleet of existing buses.

Existing bus service along Division Avenue (Route #1) and Downtown (along the route of the Locally Preferred Alternative, including routes #3, #5, and #11) would continue with 41 northbound stops and 53 southbound stops. Currently, Route #1 travels only southbound between 54th Street and 60th Street. Frequency of this service is provided at 15-minute intervals during the weekday and 30-minute intervals during the weekday evening, Saturday and Sunday.
The No Action Alternative serves as the baseline against which to evaluate the effects of the Locally Preferred Alternative on social, economic, transportation and environmental factors.

2.2 The Locally Preferred Alternative

The Locally Preferred Alternative would generally proceed from the Rapid Central Station in the Central Business District (CBD) of Grand Rapids to the south service boundary (60th Street), traversing the cities of Wyoming and Kentwood and spanning a distance of 9.6 miles. The BRT vehicles would run in the existing travel lanes closest to the curb in each direction with 10-minute headways in peak hours and 15-minute headways in off-peak hours. The BRT operating plan would complement the existing local bus (Route #1) operating plan in the corridor. The location of the proposed BRT alignment downtown is shown in Figure 2-1.

The operating plan, developed as part of the Alternatives Analysis for the Locally Preferred Alternative, calls for a BRT service that runs through the CBD and then proceeds south along the existing Route #1 until reaching the southern service boundary at 60th Street. The intent of the BRT service is to circulate through the major attractions in the CBD rather than travel directly from the Rapid Central Station to Division Avenue. The purpose for this difference is to eliminate a transfer point at the Rapid Central Station for downtown destinations (as is currently required) and to improve service between these attractions and the Rapid Central Station.

Service is proposed at 18 stations from 5:00 a.m. to 11:30 p.m. weekdays, 6:00 a.m. to 10:00 p.m. Saturday, and 7:00 a.m. to 7:00 p.m. Sunday. Frequency would be 10 minutes during the two daytime periods of peak use (morning and afternoon); 15 minutes during early morning, midday and evening; and, 30 minutes late night and on weekends. Key project provisions include: transit signal priority; 17 new BRT stations and service to the existing Rapid Central Station with pedestrian and bicycle access; 35 BRT curb stops; new hybrid low-floor buses; digital displays at the stations showing time of arrival of the next bus; and, a new image or brand to distinguish the BRT service from existing bus operations. No property acquisition is proposed as part of this project.

The BRT will complement existing bus service along Route #1. It will provide reduced travel times as the stations will be fewer in number and located further apart, typically at distances of 0.4 mile downtown and nearly 0.7 mile further south along Division Avenue.

2.2.1 BRT Alignment Overview

The proposed BRT alignment of the Locally Preferred Alternative would start at the Rapid Central Station and travel north to Michigan Street via Grandville Avenue, Market Avenue, and Monroe Avenue. The alignment would continue to circulate through Downtown along Bostwick Avenue, Crescent Street, Ransom Avenue, Fulton Street, Jefferson Avenue and Wealthy Street before proceeding southbound on Division Avenue. Taken together, this alignment comprises the Division Avenue corridor. The proposed BRT alignment is 9.6 miles in length.
Figure 2-1 Locally Preferred Alternative
Eighteen stations are proposed as part of the Locally Preferred Alternative with each station location typically consisting of a pair of platforms (e.g., one northbound and one southbound). However, at Central Station, the northern terminus of the alignment, only a single platform would be used. The eighteen stations included as part of the Locally Preferred Alternative are proposed at the following locations:

1. Central Station (existing)
2. Monroe Avenue/Fulton Street (Van Andel Arena and B.O.B.)
3. Monroe Avenue/Lyon Street (Convention Center, City-County Complex)
4. Michigan Street (Spectrum Butterworth Hospital, Van Andel Institute, Michigan State University Medical School)
5. Crescent Street (Van Andel Institute, DeVos Children’s Hospital)
6. Ransom Avenue/Fountain Street (Grand Rapids Community College and Tech Center, Grand Rapids Public Library)
7. Jefferson Avenue/Wealthy Street (St. Mary’s Health Campus)
8. Division Avenue/Logan Street
9. Division Avenue/Franklin Street
10. Division Avenue/Hall Street
11. Division Avenue/Cottage Grove Street
12. Division Avenue/Burton Street
13. Division Avenue/Alger Street
14. Division Avenue/28th Street
15. Division Avenue/36th Street
16. Division Avenue/43rd Street
17. Division Avenue/54th Street
18. Division Avenue/60th Street

2.2.2 Transit Vehicles

An expansion of the existing fleet of buses is proposed as an integral part of the Locally Preferred Alternative with the addition of 10 buses to support the BRT service. The vehicles would be low-floor vehicles, typically 40-feet in length, although larger, articulated buses would be included as part of the fleet expansion. In comparison, the buses currently in use are mostly 40-foot diesel-powered, low-floor buses. Each of the new BRT vehicles will have capacity to accommodate at least two bicycles. The final selection of vehicles will be determined in the future.

2.2.3 Transit Operating Characteristics

The BRT service is expected to complement existing transit service on Division Avenue. Existing fixed-route buses would continue to operate without substantial change once the BRT is implemented, although it is intended that Route 1 will run every 30 minutes all day. Minor changes to one or more cross-town routes (e.g., Route #44) may be implemented to improve the convenience of transfers. A map of existing Rapid bus service can be found in Appendix F.
The BRT buses would operate in addition to the existing Route #1 buses and use existing lanes, serving the 17 new stations and the Rapid Central Station along the proposed alignment (as described previously in Section 2.2.1). The BRT will offer an improved frequency of service with 10-minute intervals during the two daytime periods of peak use (morning and afternoon). The station interval will be much greater than the existing service, typically ranging from 0.4 mile apart downtown to nearly 0.7 mile intervals along Division Avenue. During peak hours, portions of the bus travel lanes would be exclusively for transit use. Outside of peak hours, the transit vehicles would travel in mixed traffic. Distinctive lane markings and clear signage identifying when the travel lane is exclusive for transit use will be provided. A signal priority system is proposed to minimize the number of stops for a BRT vehicle due to a red signal.

2.2.4 Transit Service Hours

Service is proposed at the 18 stations from 5:00 a.m. to 11:30 p.m. weekdays; 6:00 a.m. to 10:00 p.m. Saturday; and, 7:00 a.m. to 7:00 p.m. Sunday. Frequency would be 10 minutes peak, 15 minutes off-peak, and 30 minutes late night and on weekends.

2.3 Alternatives Previously Considered

2.3.1 Alternatives Analysis (GT2 Study)

At the onset of the Alternatives Analysis phase of the project in 2003, the Grand Transit Grand Tomorrows (GT2) study, The Rapid considered ten corridors for a new transit service (now referred to as the Silver Line BRT). This analysis concluded that the most appropriate corridor for the service was the South Corridor, which runs south from Downtown Grand Rapids along Division Avenue to 60th Street in the cities of Wyoming and Kentwood.

The GT2 Study involved the evaluation of multiple transit modes, geographic corridors and alignment options. With established evaluation criteria, technical analysis, and public input, the alternatives were narrowed down through a “tiered” process, proceeding from a system-level of planning (Tier 1) to the final screening and selection of a Locally Preferred Alternative (Tier 4).

Tier 1. A full range of 12 transit options was initially identified for the study. The transit modes evaluated included local, enhanced and express bus; bus rapid transit; light rail; streetcar, heavy rail; commuter rail and self-propelled commuter rail; automated guideway transit; monorail; MagLev (a fixed guideway using magnetic levitation); and personal rapid transit (The Rapid, 2007).

Early public input and screening eliminated five modes from further consideration – monorail, heavy rail, MagLev, automated guideway, and personal rapid transit – based on high cost and unproven technology. The remaining seven modes were evaluated in Tier 1 using established goals and criteria. Based on the Tier 1 analysis, commuter rail was removed from the GT2 Study because this type of transit service typically operates in corridors ranging from 30 to over 75-miles long. These lengths extended well beyond the GT2 Study Area. Thus, commuter rail trains similar to Amtrak or Metra in Chicago would be very ineffective and overly expensive to
implement in the smaller GT2 corridors. This mode could be reconsidered at a later time as part of a larger tri-county regional effort.

Eight initial corridors were also formulated early in the GT2 Study. However, after public input in June 2003, two more corridors were added: East Beltline and 44th Street. The corridors evaluated in the Tier 1 are listed below:

- Rockford
- East Beltline
- East
- East Grand Rapids/Kentwood
- South
- 44th Street
- Southwest
- Allendale
- Northwest
- Ridge

The 10 corridors were evaluated in Tier 1 based on population and employment, as well as travel demand. In some cases, portions of a corridor showed more potential for transit opportunities than the entire corridor, resulting in sub-corridors. Furthermore, from an initial set of public meetings, some members of the community requested that major activity centers be considered in Tier 1. Based on this analysis and feedback, the Rockford, East, East Beltline, 44th Street, and Northwest corridors, as well as the northern portion of the Ridge Corridor were eliminated from further evaluation in the GT2 Study. These corridors were dismissed for lack of population density, employment centers or demand for work trips between existing residential areas and work places.

The Tier 1 analysis and screening of the various transit modes and study corridors was completed in February 2004. Detailed information and presentations on the Tier 1 screening process were provided to The Rapid Board of Directors, Task Force, Advisory Committee, Employers Advisory Council, and other key stakeholders in February and March. The Tier 1 recommendations were revised based on input received and approved by the Task Force in April 2004.

Tier 2. The second level of analysis was undertaken with the five remaining Tier 2 corridors, and was evaluated using key criteria, such as major activity centers, population characteristics, land use consistency, development potential and park-and-ride opportunities. The analysis concluded that the East Grand Rapids/Kentwood and South corridors ranked highest in comparison to the other corridors. Specifically, these two corridors have the highest total population, highest population density, highest transit-dependent population, and highest number of major activity centers. These two corridors also would have the highest development potential. As a result, these areas moved forward for further consideration in Tier 3 because they would have the best potential to support an enhanced transit investment in the FTA’s New Starts process. The other corridors – Ridge Sub, Southwest and Allendale – were eliminated from the study. These three corridors had low or medium-low ranking in several of multiple evaluation categories including total population, population density, development potential, or land use compatibility. Following input by the study committee’s other stakeholders, the Task Force approved the Tier 2 recommendations in June 2004.
Tier 3. From June to September 2004, four potential transportation modes were evaluated in Tier 3: enhanced bus/BRT, streetcar, light rail transit (LRT) and diesel multiple units (DMU). Routes for these transit modes were mapped along existing road and rail rights-of-way in the two remaining corridors: East Grand Rapids/Kentwood and South. Several specific route alternatives within these corridors were considered along US-131, Division Avenue, existing rail lines, Lake Drive, Wealthy Street, Breton Street, East Paris, and the East Beltline. The routes were evaluated based on major activity centers, land use consistency, development potential, population and employment, roadway congestion, ridership forecasts, right-of-way (ROW) constraints, environmental implications (air quality, noise, vibration, water resources, etc.), and estimated costs. Based on the Tier 3 findings, enhanced bus/BRT and streetcar were recommended to advance into the “Final Screening” phase. These two modes were recommended for evaluation in the East Grand Rapids/Kentwood Corridor on various streets and in the South Corridor on Division and Clyde Park. After stakeholder briefings and three public meetings in September 2004, the Tier 3 recommendations were endorsed by the Advisory Committee, the GT2 Task Force, The Rapid Board of Directors, the six member agency cities, and the GVMC in late 2004 through early 2005.

Tier 4. As part of the Final Screening process, the Tier 3 recommendations were refined to focus on Division Avenue for the South Corridor and Wealthy Street for the East Grand Rapids/Kentwood Corridor. BRT had an option for trolleybuses that would draw electric power from an overhead contact system. All of the alternatives assumed substantial stations, traffic signal priority, low floor vehicles, and branding of vehicles, stations, and signage. Final Screening criteria included estimated capital costs, operating and maintenance costs, total annualized cost, existing ridership in the corridor, and projected ridership.

During Final Screening, the Federal Transit Administration issued Interim Guidance for Very Small Starts projects. Of the four Tier 3 alternatives passing into the final screening, the two streetcar alternatives could not meet the requirement restricting cost-per-mile to $3 million per mile. (Average cost for new streetcar systems in the U.S. runs approximately $17 million per mile and higher.) The BRT alternative to East Grand Rapids could not meet the requirement for 7,250 existing riders in the corridor. The Final Screening analysis revealed that only BRT in the South Corridor could qualify as a Very Small Starts project, with a refinement of the design and cost estimates. In the South Corridor, existing ridership could meet the ridership requirement. The BRT alternative, exclusive of vehicles, could meet the cost-per-mile requirement.

Based on the Final Screening and potential for Very Small Starts funding, the Task Force recommended BRT in the South Corridor as the Locally Preferred Alternative for the GT2 Study in August 2006. Through December of that same year, design assumptions were refined, a Minimum Operable Segment (MOS) was developed (based on access to the BRT alignment from the US-131 freeway and based on The Rapid’s service area). MOS can be best described as the most feasible segment of a preferred modal alternative that can be built and opened for revenue service. Typically, the factors that are taken into consideration in identifying a MOS include ridership, operational characteristics, and financial feasibility.
Revised cost estimates were prepared to meet the Very Small Starts criteria, while continuing to achieve the purpose, need and goals of the GT2 Study. The revised Locally Preferred Alternative was approved by The Rapid Board on January 24, 2007.

2.3.2 Downtown Alternatives Considered

Once the Locally Preferred Alternative was adopted, it was further evaluated based on input from stakeholders and City staff. Based on The Rapid staff input, several downtown options were discussed as alternatives in conjunction with City staff. The alternatives, as shown in Figure 2-2 included:

A. College Option: Fountain Avenue though College to Michigan Street
B. Barclay Option: Ransom Avenue through Lyon Avenue (with traffic operating in the opposite direction) to Barclay Avenue to Michigan Street
C. Coit Loop Option: Lafayette Avenue through Hastings Street to Coit Avenue back to Michigan Street
D. Lafayette Avenue Option: Lafayette Avenue via Fountain Street to Michigan Street (northbound) and via Lyon Avenue to Ransom Avenue (southbound).

Figure 2-2 Downtown Route Options for the Locally Preferred Alternative
Option A was dismissed because it would add more miles to the length of the BRT alignment, require a change in traffic signals at College Avenue and Michigan Street while also passing through residential areas of the Heritage Hill Historic District. It would also significantly change the scope of the project because it needed more vehicles, adding cost and increasing travel time.

Option B was dismissed largely because it would require converting a portion of Lyon Street to a two-way street for the BRT operations. This will require the City’s approval and a further traffic analysis. City staff in preliminary meetings has opposed this option. Initially, it was thought that the BRT along Barclay Avenue close to Spectrum Health’s emergency entrance/exit points may prompt further analysis because of the potential for impact of emergency vehicles on the system. However, further investigation reveals this impact to be either minimal or non-existent. Since the inception of the six routes that are at or near three hospital emergency entrance/exits (including Barclay Avenue), The Rapid has not received any complaints from the medical facilities or bus operators regarding delays or any type of conflicts between emergency vehicles and bus services.

Option C was not considered further because it would be impacted by existing parking garages on Coit and Lafayette avenues which could further have adverse impacts on the BRT schedule while still passing through residential areas of the Heritage Hill Historic District. This option was also opposed by City Traffic as the turns from Michigan Street would make the project problematic to traffic flow on Michigan Street.

Option D was retained for its proximity to Grand Valley State University’s Kirkhof College of Nursing at Michigan Street and Lafayette Avenue; in conjunction with future office and health-related land use development expected to occur in vacant properties located further east along Michigan Street.

2.3.3 Refinement of the Locally Preferred Alternative

The alignment of the Locally Preferred Alternative downtown, as originally approved by The Rapid Board of Directors, was routed along Lafayette Avenue for approximately three blocks. Further community input at the commencement of this Environmental Assessment prompted a more detailed evaluation of transportation, socio-economic and environmental factors. Given the input received from two neighborhood meetings in 2009, it was concluded that there was sufficient reason to relocate the Locally Preferred Alternative from Lafayette Avenue westerly one block to Ransom Avenue (see Figure 2-3). Analysis of each alignment, combined with field surveys, indicated relative strengths and weaknesses of each. Principal considerations included compatibility with existing land use characteristics, the presence of the Heritage Hill Historic District, and proximity to major activity centers; a comparison of the alternatives is shown in Table 2-1. Spectrum Health was also consulted (Lemoine and Bailey, 2010) given the proximity to the emergency entrance/exit at Bostwick and Michigan for the DeVos Children’s Hospital and no objections were expressed. In addition, the Ransom Avenue Alternative largely retains proximity to existing employers along the Michigan Street, reduces travel time and results in minimal impact on traffic flow. For these reasons, the Locally Preferred Alternative was revised to the Ransom Avenue Alternative in January 2010 by vote of The Rapid’s Board of Directors (Parsons Brinckerhoff, 2010).
Figure 2-3 Ransom Avenue and Lafayette Avenue Detail
### Table 2-1 Comparison of Downtown Alternatives

<table>
<thead>
<tr>
<th>Strength</th>
<th>Weakness</th>
<th>Strength</th>
<th>Weakness</th>
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</thead>
<tbody>
<tr>
<td>Social and Economic Considerations</td>
<td>Social and Economic Considerations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderately compatible with surrounding land uses</td>
<td>Multi-family residential mixed with low to medium range traffic generators (places of worship and smaller medical offices)</td>
<td>Highly compatible with surrounding land uses</td>
<td>Proximate to major activity centers and transit-supportive institutional uses (5 public or quasi-public uses, including the Public Library)</td>
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<tr>
<td>Transportation Considerations</td>
<td>Transportation Considerations</td>
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<tr>
<td>Projected ridership marginally higher, as forecast (by roughly 100 riders)*: 2015: 1,492; 2030: 1,582 (total daily ridership)</td>
<td>* Not significant as it is subject to accuracy of travel-model based projections</td>
<td>Proposed stations better located to capture institutional users</td>
<td>Projected ridership marginally lower, as forecast (by roughly 100 riders)*: 2015: 1,398; 2030: 1,472 (total daily ridership)</td>
</tr>
<tr>
<td>Proximity to GVSU Nursing School and future Michigan Street development adds potential for increased ridership</td>
<td>Increased travel time (~1.3 minutes additional)</td>
<td>Reduced travel time (~1.3 minute savings)</td>
<td>Not able to readily capture future ridership demand along Michigan Street (east)</td>
</tr>
<tr>
<td>Environmental Considerations</td>
<td>Environmental Considerations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noise and vibration concerns in residential area</td>
<td>Avoids residential area (noise/vibration concerns)</td>
<td></td>
<td></td>
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<tr>
<td>Other Factors</td>
<td>Other Factors</td>
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<tr>
<td>Partially located within residential area of Heritage Hill National Register Historic District (potential Section 106 - Historic Preservation issues)</td>
<td>Avoids residential areas of Heritage Hill National Register Historic District</td>
<td></td>
<td></td>
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<tr>
<td>Station architecture subject to local design regulation per Grand Rapids historic preservation ordinance</td>
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With this approval, the Locally Preferred Alternative was rerouted along Ransom Avenue, rather than Lafayette Avenue, resulting in a 0.25 reduction in length from 9.85 miles to 9.6 miles. The Locally Preferred Alternative now proceeds north from the intersection of Fountain Street and Ransom Avenue, where it continues north two blocks until turning west on Crescent Street. The alignment then proceeds north one block on Bostwick Avenue where it intersects...
Michigan Street, and continues west along the original route of the Locally Preferred Alternative. The southbound alignment is the same as the northbound route as shown in Figure 2-3.

2.4 Design Elements of the Locally Preferred Alternative

The Locally Preferred Alternative consists of several key elements which are described in this section, including existing right-of-way characteristics, BRT station/platform design, drainage, utilities, signage, and lighting. The Locally Preferred Alternative will provide BRT service to the communities of Grand Rapids, Wyoming and Kentwood. Transit improvements associated with this project include 17 new BRT stations and service to the existing Rapid Central Station with pedestrian and bicycle access; 35 BRT curb stops; new hybrid low-floor buses; and, digital displays at the stations showing time of arrival of the next bus. A description of the proposed built elements of the BRT follows; see Section 2.2 for more information regarding the proposed alignment, vehicles, and operating characteristics.

2.4.1 New Right-of-Way

No property acquisition is required as part of the Locally Preferred Alternative, as all proposed stations are located within existing street rights-of-way, and no park and ride facilities are included with the Locally Preferred Alternative.

2.4.2 Existing Right-of-way Characteristics

The alignment of the Locally Preferred Alternative has multiple distinct cross-sections along the proposed route from the Rapid Central Station to the intersection of 60th Street and Division Avenue. Four different cross-sections are defined below from north to south in the project area:

- Grandville Avenue: This section is one lane in each direction with a continuous center left-turn only lane. Metered parking is available on both sides of the street north of Williams Street. Grandville Avenue is a brick roadway.
- Market Avenue/Monroe Street/Michigan Street: This section of the corridor has two lanes in each direction with a continuous center left-turn only lane. Additional exclusive turn-lanes are provided for critical movements at intersections where necessary. Signals are spaced more closely together than the rest of the study corridor with a range between 300 feet to 725 feet along Michigan Street and a range of 0.06 miles (320 feet) to 0.22 miles along Monroe Avenue. An area of on-street parking in a third southbound lane is present along Monroe Avenue between Michigan Street and Lyon Street in front of DeVos Place and between Pearl Street and Louis Street.
- Bostwick Avenue/Crescent Street/Ransom Avenue/Jefferson Avenue: This section of the corridor has one lane in each direction. There are two roundabouts within this section along Jefferson Avenue. Signals are spaced typically within 675 feet to 800 feet. On-street parking is available along Bostwick Avenue, Crescent Street, and Ransom Avenue.
- Division Avenue: Division Avenue in this section typically has two through lanes in each direction and a continuous center left-turn only lane. Additional exclusive turn-
pockets are provided for critical movements at intersections where necessary. Signals are spaced with a range between 0.5 miles to 1.0 mile.

2.4.3 BRT Station/Platform Design

New stations will be an essential feature of the proposed project. The stations will be designed to enhance the efficiency of BRT transit operations, including level or near-level boarding and ticket vending machines. The stations have been sited along the proposed alignment in proximity to major activity and employment centers, residential areas, and at intervals consistent with BRT operations (at greater distances that the existing Route #1). The BRT station design is intended to provide for safe and efficient pedestrian access for boarding the BRT vehicles. The stations would typically include a canopy to provide refuge from the elements, lighting and transit system information for riders. Figure 2-4 shows the basic design elements of a typical station. Several important features of the stations would include:

- A 10-inch high platform (existing platforms are found on Jefferson Avenue south of Maple Street and on Division Avenue approximately two blocks north of Hall Street). The 10-inch platforms would be near-level boarding, though not level boarding. Buses would still have bridge plates (or similar) for Americans with Disabilities Act (ADA) compliant boarding.
- A 60-foot platform length where possible (to fit future articulated buses and two 40-foot buses potentially at the same stop). Where space is limited, the platform could be reduced in size, depending on the vehicle finally selected and actual site conditions.
- A 14-foot platform width where the sidewalk is shared with the platform, although fit to available right-of-way where needed. Potential designs would also be developed as necessary for sidewalk behind, sidewalk through, and/or narrow locations.

Other features would likely include a canopy, ticket vending, lighting, signage, security camera(s), next bus information, and emergency ‘blue-light’ boxes. The final disposition of these elements would be determined during future studies and would vary depending on the station location, and all may not apply. For example, some locations may only have the fare vending at one station in the pair, and some locations may allow for the fare vending to be inside or part of the adjacent development/building. The specific location and design of these features will be completed during future design activities to be undertaken in the Preliminary Engineering (PE) phase of the proposed BRT project.

Platforms would likely consist of concrete, and could be brick patterned in appearance. The platforms may include other architectural or art features with landscaping as determined appropriate. Specific station architecture would be developed in subsequent phases of the project during PE. At that time, public and stakeholder input would be incorporated to accommodate adjacent landowner(s) or local preferences relative to adjacent land use or building architecture. Several examples are present in the corridor where individual design considerations may apply, including DeVos Place, Pearl Street at Monroe Avenue, and St. Mary’s Health Campus.
Figure 2-4 Typical BRT Platform

Note: 40' bus shown for illustrative purposes only.
2.4.4 Drainage

Stormwater drainage in the vicinity of the stations would be collected via new drainage inlets and would be typically conveyed longitudinally to existing stormwater infrastructure located with the street rights-of-way.

2.4.5 Utilities

Minor utility adjustments may be required during station construction, where horizontal relocations or vertical changes in elevations may be required. Specific utility design requirements would be determined with the completion of site surveys during the upcoming design phase. At that time, specific utility design requirements, or relocations will be determined at each proposed platform location.

2.4.6 Signage

An integrated program of signage would be developed for the Locally Preferred Alternative project to direct pedestrians, bicyclists, and transit riders to the project corridor and individual stations. It is intended that a distinct ‘brand’ would be established for the Silver Line to distinguish it from existing bus operations currently operating within The Rapid’s fleet. System operating information and ‘next bus’ signage would also be provided at each station.

2.4.7 Lighting

Lighting would be incorporated in the station design to increase safety, provide security and improve visibility without adversely affecting adjacent properties. Lighting would be designed consistent with each of the affected municipalities’ design requirements.