

## Fare Structure

Similar to the No-Build Alternatives, the LRT Alternatives would use DDOT's existing fare and transfer structure, presented in **Table 7-4**.

### **7.7 Downtown Alignments**

The DTOGS project considered three general concepts to accommodate light rail in downtown Detroit. Concept A (see **Figure 7-16** on page 7-68) would enter downtown Detroit from the north and would rely on the existing Detroit People Mover and local bus service for downtown circulation and distribution, entailing a transfer to and from any proposed light rail service. Concept B (see **Figure 7-17** on page 7-69) assumed a one-way loop within downtown that was smaller than the circumference of the People Mover, but with similar service coverage. Finally, Concept C (see **Figure 7-18** on page 7-70) would enter downtown in a relatively straight line fashion. Both Concepts A and C included two-way tracks. All three concepts were studied to determine their ability to connect to the Rosa Parks Transit Center. A broad analysis of these downtown alignment concepts was initiated as part of the DTOGS project. Due to the complexities of a dense urban environment and the need to accomplish a variety of goals within a single alignment, the measures of evaluation were different than those used for the selection of the corridor. This analysis considered several factors, summarized as follows:

- **Capital Cost**

At this level of assessment, a full cost estimate was not developed for each alternative; rather, the relative levels of investment required for each alternative was studied qualitatively by examining the features of each option that contributed to changes in capital costs. For this general analysis, the relative differences in capital costs were judged by the length of the alignment (longer alignments had higher costs).

- Construction Impacts

The construction impacts of each alternative were assessed qualitatively by determining the relative requirements for roadway and sidewalk reconstruction due to the guideway and stations, as well as the likely level of impacts to existing businesses and activity centers. These impacts were identified through visual inspection of aerial photographs to determine probable areas of major impact, as well as business and activity centers for which accessibility would be adversely impacted by construction.

- Operational Considerations

The purpose of this criterion was to assess the operational characteristics of each of the alternatives in terms of its connection with other transit services like the Rosa Parks Transit Center and the Downtown People Mover; and how each alternative supported the three alignments (Gratiot, Michigan and Woodward Avenues) that made up the system plan. The assessment considered how each alignment accessed downtown Detroit, how the alternative handled potential travel patterns (Gratiot to Woodward, Woodward to Michigan, etc.) and/or transfers between lines.

- Passenger Friendliness

Although subjective in nature, the passenger friendliness of a system would have a direct impact on how well it would be used. Systems that force a transfer, are indirect, or have an alignment and operating scheme that is difficult to comprehend will not attract as many riders (especially by occasional patrons) as more passenger-friendly systems.

- Traffic and Access Impacts

Traffic flow will be impacted by the presence of a fixed guideway on downtown streets, and access to driveways may also be impacted by a curb-running guideway. This criterion was intended to assess the expected extent of impacts of each concept on traffic and access. Traffic impacts were evaluated by examining the traffic volumes on the primary roadways being considered under each concept, as well as the extent of the conflicts (i.e. longer alignments will affect more streets, and thus will have a larger impact).

- Travel Time Impacts

This criterion applies to passengers destined to downtown Detroit. Similar to the criterion Passenger Friendliness, the travel time of a transit option has a significant impact on its level of utilization. For passengers destined for downtown, the overall travel time will be different depending on the alignment concept that is considered. For analysis purposes, the likely travel time (including any necessary transfers and waiting times) was estimated for each option from the area in which the alignment enters downtown to the Renaissance Center (considered a likely major destination). Travel times will vary somewhat for other downtown destinations, but the Renaissance Center is a common point of comparison.

- Pedestrian Accessibility

Like travel time on the transit system itself, walking distance between stations and the ultimate destinations of passengers plays a significant role in determining the level of system usage. Closer station proximity to key downtown destinations will make the system more accessible to passengers walking between stations and downtown businesses and attractions. Pedestrian accessibility is measured by determining the composite walking distance between the closest station and five key destinations in downtown Detroit:

- Renaissance Center
- Cobo Conference/Exhibition Center
- Campus Martius Plaza
- Future Rosa Parks Transit Center
- Financial Center
- Greektown Casino.

Given the preliminary evaluation criteria described, the relative merits of each concept were identified and discussed with the DTOGS Technical Committee. The Technical Committee concurred that this aspect of the study would be better analyzed during Preliminary Engineering (PE). The PE phase would typically entail a greater level of technical analysis than in an AA phase, and would include more accurate basemapping and deeper delving into and collecting of other information such as underground utilities and construction drawings.



As previously stated, the DTOGS project also defined the downtown alignments for the TSM and BRT alternatives as similar to current bus service in downtown. Specifically, the TSM and BRT alternatives would operate in mixed traffic in downtown Detroit. This operational definition is consistent with the FTA's criteria for BRT service, i.e. at least half of the BRT route must operate within an exclusive guideway. The downtown portion of each BRT alternative is approximately two miles long, out of total alternative alignment lengths ranging from 10.5 miles to 15 miles.

**Figures 7-16 to 7-18** show Downtown Concepts A, B, and C for the Downtown Alignments.

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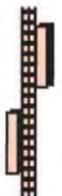
Figure 7-16

**Downtown Alternative A**  
Downtown Alignment Options

**Legend:**

 Existing Detroit People Mover (DPM) One-Way Alignment and Stations

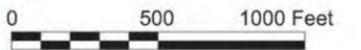
**LRT Alignments and Stations:**

 Proposed Routing & Stations  
 Alternate Routing & Stations  
 Potential Future Extensions

**LRT Alignment Configurations & Station Types:**

 Two-Way Tracks with Center Platforms  
 Two-Way Tracks with Side Platforms  
 One-Way Track with Side Platforms

 1/4 Mile Radius or 5 Minute Walking Distance from LRT Stations

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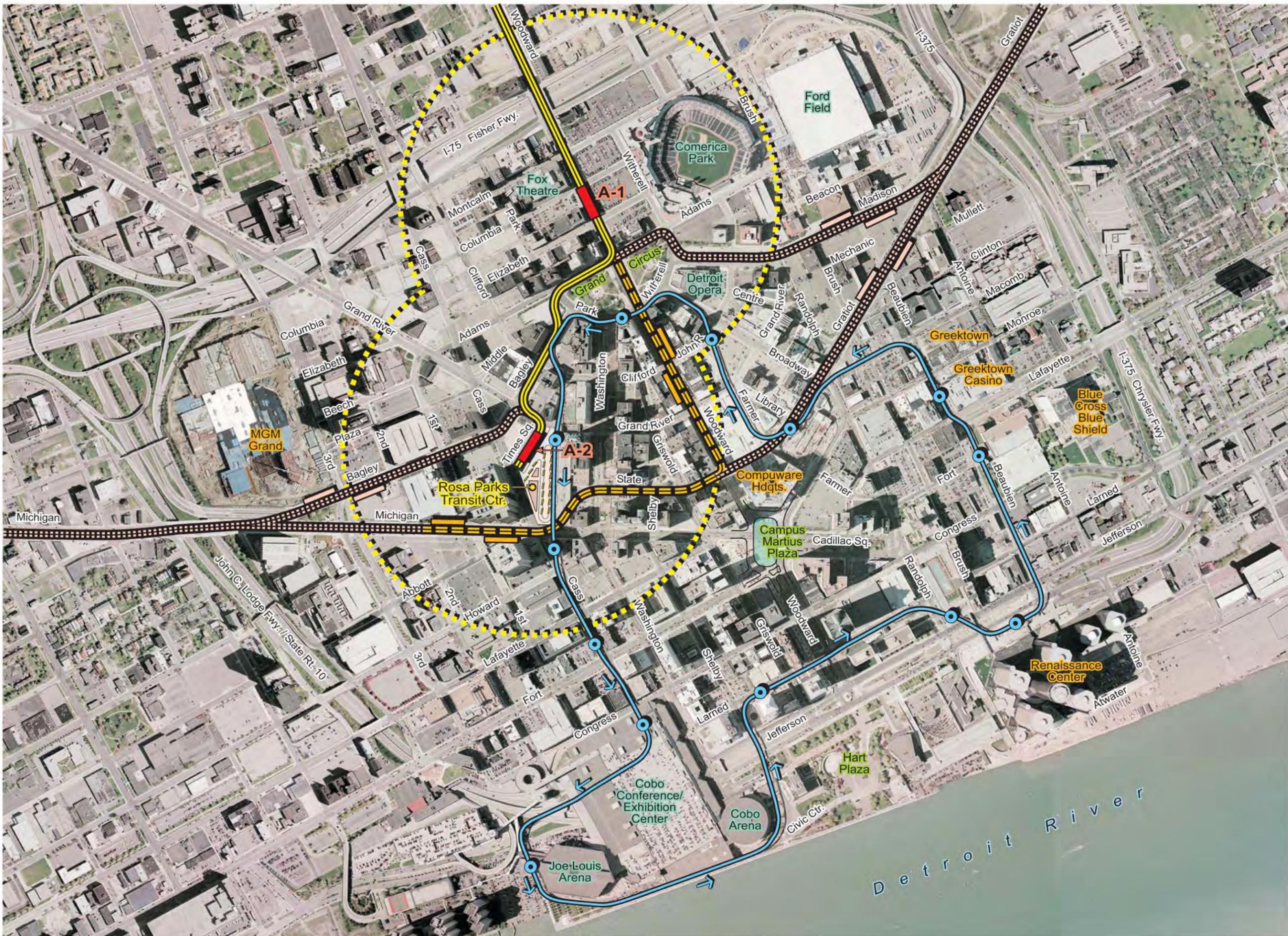
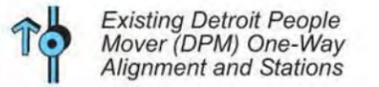


Figure 7-17

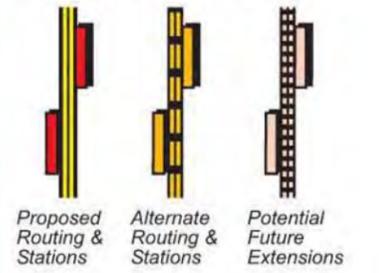
# Downtown Alternative B

## Downtown Alignment Options

**Legend:**



**LRT Alignments and Stations:**



**LRT Alignment Configurations & Station Types:**

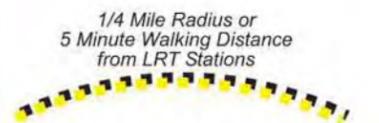
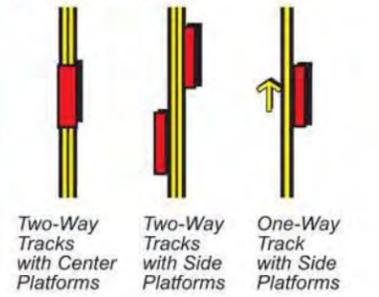


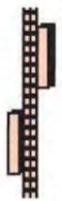
Figure 7-18

**Downtown Alternative C**  
**Downtown Alignment Options**

**Legend:**

 Existing Detroit People Mover (DPM) One-Way Alignment and Stations

**LRT Alignments and Stations:**

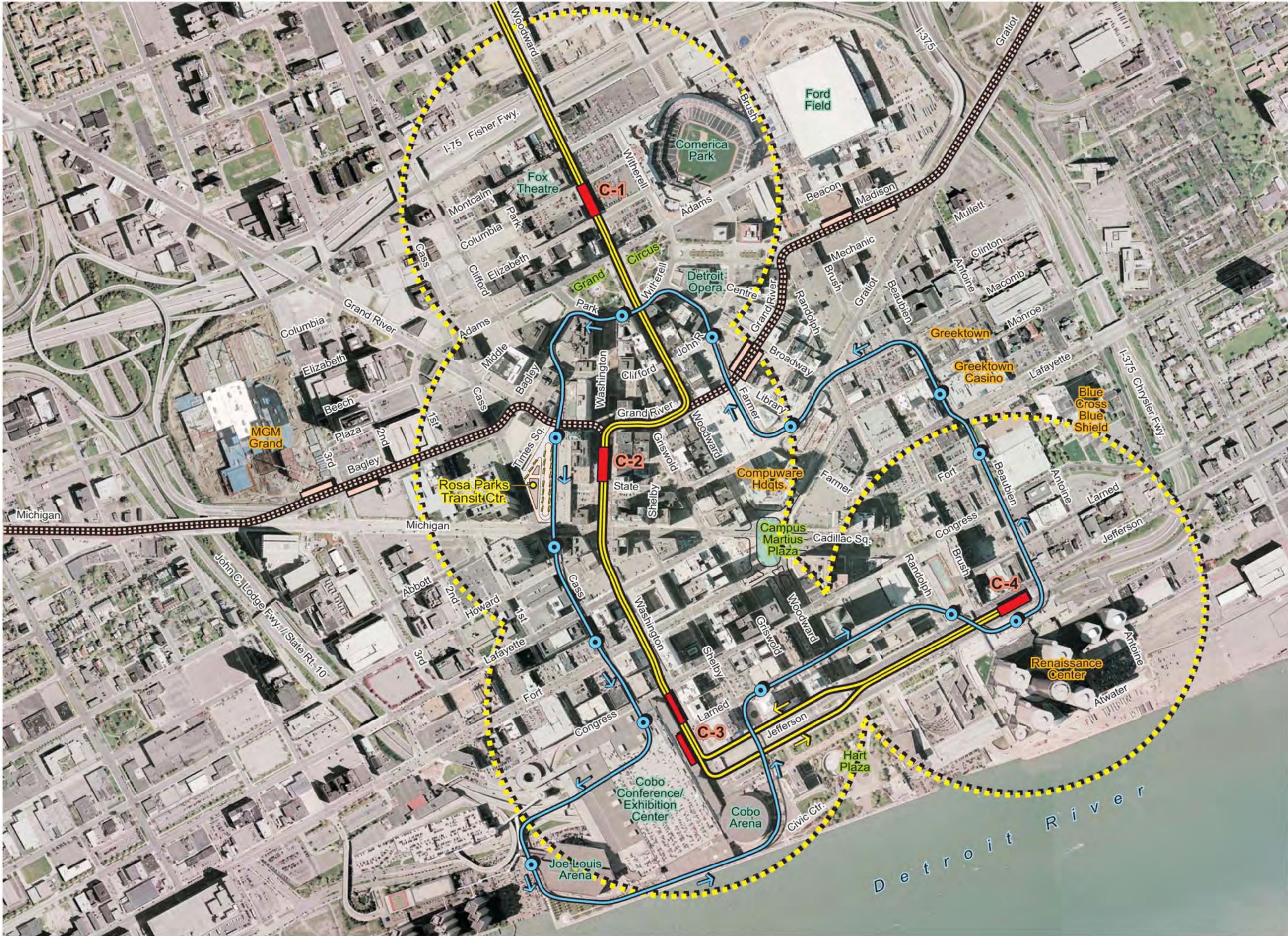
 Proposed Routing & Stations  
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 Potential Future Extensions

**LRT Alignment Configurations & Station Types:**

 Two-Way Tracks with Center Platforms  
 Two-Way Tracks with Side Platforms  
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 1/4 Mile Radius or 5 Minute Walking Distance from LRT Stations

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