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# DDOT RECOMMENDED ALTERNATIVE



The DDOT Recommended Alternative is the Streetcar Alternative primarily using K Street NW, New Jersey Avenue NW, and H Street between Georgetown and the Union Station area, identified as Alternative 1 in this report.

## Chapter 8 → DDOT Recommended Alternative

### A. DESCRIPTION OF RECOMMENDED ALTERNATIVE

The DDOT Recommended Alternative, based on the technical analyses conducted in this AA Study, as well as input from agencies, stakeholders, DDOT staff, and the public, is a Streetcar Alternative primarily using K Street NW, New Jersey Avenue NW, and H Street between Georgetown and the Union Station area. The Streetcar alternative recommended, characterized as Alternative 1 in this AA Study, is built upon the K Street Transitway Study between Washington Circle and Mount Vernon Square and approved in 2009. For this central portion of the study area, a dedicated transitway is recommended. For the western portion of the corridor, west of Washington Circle, and the eastern portion of the corridor, east of Mount Vernon Square, the Recommended Alternative is primarily in shared lanes with vehicular traffic.

The Recommended Alternative 1 Streetcar, which extends 2.7 miles along K Street NW between Wisconsin Avenue NW and New Jersey Avenue NW, begins along Water Street/K Street NW under the Whitehurst Freeway, passes under Washington Circle, continues within the K Street Transitway before passing around Mount Vernon Square (both sides) and continuing along K Street NW to New Jersey Avenue NW. The Recommended Alternative 1 Streetcar then continues southeast along New Jersey Avenue NW to H Street NW before continuing east along H Street and over the Hopscotch Bridge to H Street/3rd Street NE. A total of eight (8) stations are provided along this 3.4 mile route. Refer to **Chapter 4, Section E** of this AA Study for a detailed description of this alternative.

### B. RATIONALE FOR ALTERNATIVE 1 STREETCAR AS THE DDOT RECOMMENDED ALTERNATIVE

Based on the comprehensive technical evaluations completed by the project team for the three final alternatives presented in the AA Study, and informed by comments received from the public, agencies and stakeholders, DDOT's Recommended Alternative for the provision of premium transit service between Union Station and Georgetown is Alternative 1 Streetcar. The major reasons supporting this recommendation are:

1. Alternative 1 Streetcar: best meets the project's purpose and need
2. Alternative 1 Streetcar: provides transit travel time advantages
3. Alternative 1 Streetcar: transit service has only minor impacts on auto travel times
4. Alternative 1 Streetcar: capital costs are lower than Alternative 2 Streetcar
5. Alternative 1 Streetcar: operation and maintenance costs are lower than Alternative 2 Streetcar
6. Alternative 1 Streetcar: has no right-of-way impacts, all improvements are within public right-of-way
7. Alternative 1 Streetcar: has the lowest number of parking impacts
8. Alternative 1 Streetcar: offers good system compatibility and system connectivity
9. Public and Agency Input
10. Environmental scan completed as part of the AA Study

Additional discussion of these reasons is provided on the following page.

## 1. Alternative 1 Streetcar: Best Meets Project’s Purpose and Need

Table 8-1: Comparison of Purpose and Need with the Recommended Alternative

Purpose and Need	Benefits of Recommended Alternative
Efficient East/West Transit Connectivity	<ul style="list-style-type: none"> <li>&gt; Shortest overall length at 3.60 miles</li> <li>&gt; Highest percentage of exclusive lanes for transit service (34.1%)</li> <li>&gt; The most direct route via K Street NW, New Jersey NW, and H Street NW/NE</li> <li>&gt; Shortest overall length at 3.60 miles</li> </ul>
Transportation System Mobility	<ul style="list-style-type: none"> <li>&gt; Achieves best eastbound and westbound travel times for premium transit vehicles</li> <li>&gt; Provides effective connections to local/regional bus routes and WMATA stations</li> </ul>
Reliability of Transit	<ul style="list-style-type: none"> <li>&gt; Optimum use of exclusive lanes for transit which will result in more reliable end-to-end travel times</li> <li>&gt; Use of K Street/Water Street under Whitehurst Freeway to serve Georgetown offers considerably less traffic friction than Pennsylvania Avenue NW and M Street NW</li> </ul>
System Capacity and Congestion	<ul style="list-style-type: none"> <li>&gt; As noted in Figure 2, auto travel times with transit are better for Alternative 1 than Alternatives 2 and 3</li> </ul>
Existing and Future Land Use	<ul style="list-style-type: none"> <li>&gt; Supports existing and future land use in the area</li> </ul>

## 2. Alternative 1 Streetcar: Provides Transit Travel Time Advantages

Alternative 1 Streetcar has a greater (nominally 30%) westbound travel time advantage over Alternative 2 Streetcar and a 7 to 19% advantage for eastbound travel times. In comparison to Alternative 3 Premium Bus, Alternative 1 Streetcar offers a 6 to 14% transit travel time advantage.

## 3. Alternative 1 Streetcar: Transit Service Has Only Minor Impacts on Auto Travel Times

Alternative 1 Streetcar has a relatively modest penalty for eastbound and westbound travel times for autos relative to no premium transit service (refer to **Table S-1**). Consequently, one may conclude that Alternative 1 Streetcar offers better eastbound and westbound transit travel times in comparison to Alternative 2 Streetcar and Alternative 3 Premium Bus, while only incurring a minor time delay for auto travel.

## 4. Alternative 1 Streetcar: Capital Costs Are Lower Than Alternative 2 Streetcar

Including the \$150 Million (2016 \$) cost for the reconstruction of K Street between Washington Circle and Mount Vernon Square which is a part of all 3 alternatives, Alternative 1 Streetcar is approximately 12% less expensive than Alternative 2 Streetcar. Alternative 3 Premium Bus is, however, only about two-thirds of the cost of Alternative 1 Streetcar.

## 5. Alternative 1 Streetcar: O&M Costs are Lower Than Alternative 2 Streetcar

In 2013 dollars, Alternative 1 Streetcar is approximately 18% less per year to operate and maintain than Alternative 2 Streetcar. Alternative 1 Streetcar is, however, almost 3 times the annual operations and maintenance costs of Alternative 3 Premium Bus.

## 6. Alternative 1 Streetcar: Has No Right-of-Way Impacts, All Improvements Within Public Right-of-Way

Based on the level of conceptual analyses completed to date, Alternative 1 Streetcar’s alignment and stations stay within public right-of-way (including the lane additions along K Street NW between 12th Street NW and 10th Street NW). Property impacts to the numerous parks along Alternative 1 Streetcar are not anticipated. During subsequent phases of project development, locations for traction power substations (TPSS) and yard and shop, both of which are highly dependent on the selection of a vehicle and propulsion method and the build-out of the One City Streetcar Plan, will be addressed.



## 7. Alternative 1 Streetcar: Has the Lowest Number of Parking Impacts

Alternative 1 Streetcar requires the least number of parking spaces to be eliminated (approximately 278 spaces end-to-end). This number is approximately one-third the number of parking spaces eliminated with Alternative 2 Streetcar and approximately 87% of the number of parking spaces eliminated with Alternative 3 Premium Bus.

## 8. Alternative 1 Streetcar: Offers Good System Compatibility and System Connectivity

Alternative 1 Streetcar provides good station-to-station interface with local and regional bus lines, with Metro, and other transit providers in the Study Area (Georgetown University's GUTS shuttle bus system for example). Via future connections along Thomas Jefferson Street NW, Alternative 1 Streetcar does not preclude in the future a more direct streetcar connection to the Georgetown CBD or Georgetown University.

Alternative 1 Streetcar is consistent with the DC Transit Future System Plan (April 2010) including the link between Washington Circle and Georgetown, the link between Washington Circle and Mount Vernon Square along K Street NW, and the link between Union Station/Mount Vernon Square along K Street NW, New Jersey Avenue NW, and H Street NW.

## 9. Public and Agency Input

In addition to extensive public outreach, the three final alternatives were presented and discussed at four interagency meetings (including representatives of NCPC, CFA, NPS, WMATA, and FTA), as well as several briefings to the affected BIDs. Separate meetings were also held with several of the BIDs and Events DC. Public comments favored Alternative 1 Streetcar over Alternative 2 Streetcar and Alternative 3 Premium Bus; for the most part, agencies did not express a preference among the alternatives.

## 10. Environmental Scan Completed As a Part of the AA Study

As a part of the AA Study, an environmental scan of potential NEPA issues that could impact the project alternatives was conducted. Based on that environmental analysis, environmental issues do not appear to be a differentiator among the 3 premium transit alternatives evaluated.

### C. Issues Identified for Further Consideration

The Union Station to Georgetown project is at the Alternatives Analysis phase of project development and the AA Study has focused on a conceptual level of detail for alternatives under consideration and not a detailed environmental analysis or detailed engineering level. Based on the information available the following issues are identified that may need further consideration:

- > **Hopscotch Bridge Replacement** – The AA Study has made assumptions of track and station placement under the condition of both the existing bridge and a new bridge. These assumptions could change based on final construction of a new bridge.
- > **Operations and Station in the vicinity of Mount Vernon Square** – The AA Study definition in this area could change based on re-development in and around the Mount Vernon Square area.
- > **Changes to K Street travelway between 10th and 12th Streets** – The changes proposed to the K Street Travel way between 10<sup>th</sup> and 12<sup>th</sup> St may need further analysis in the next phase of the project. Issues related to parking and sidewalk widths were raised by some community members. All the changes to K St are proposed within DDOT ROW.
- > **Use of existing K Street Underpass at Washington Circle** – Use of the Underpass by the Recommended Alternative needs to be designed in greater detail than in the AA Study and could be affected by decisions on propulsion.
- > **Traffic operations at K Street/27th Street Intersection** – Solutions to address traffic flow through this intersection will need to be addressed in more detail in the next phase of the project.
- > **Further Extension of service to Georgetown** – A separate study is recommended to evaluate the potential of extending a premium transit service further into Georgetown, beyond the terminus of this project.
- > **Access to a Streetcar Maintenance Facility** – A specific solution for a Streetcar Maintenance Facility has not been determined as part of the AA Study, as the solution is part of a broader system wide streetcar maintenance plan. However, it is imperative that a solution is needed in the next phases of the project, in concert with system wide maintenance requirements.

- > **Final determination of Streetcar Propulsion technology** – The AA Study has concluded that there will be viable technologies available to provide propulsion for at least segments of the project without overhead wires. However, as technologies evolve, some issues may arise
- > **Underground utility impacts** – As detailed engineering is performed, including a detailed engineering analysis of all underground utilities, unknown conditions may affect project design and construction.
- > **Refinements and changes to the Recommended Alternative based on NEPA** – NEPA is the decision making phase for projects involving federal actions. A Preferred alternative is selected and decision regarding the project is made in NEPA phase for such projects. Changes or Refinements to recommended alternative can occur in NEPA phase. Changes could include shifts in specific track alignments, adjustments to station locations, input into design solutions, and mitigation.
- > **Location of Systems Equipment** – During the NEPA phase of project development, specific locations for systems equipment such as traction power substation and potential re-charging equipment will be identified.