



Duke/VA Medical Centers Stations Analysis of Alternatives – Comparative Analysis

Draft DEIS

Factor	No Build	LRA*	Duke Eye Center Alt.	Trent/ Flowers Alt.
Project Features				
Length (miles)	-	<u>11.4</u>	+0.0	+0.0
Travel time (minutes)	-	<u>25:35</u>	+0:00	+0:05
Stations, Vehicles, etc.	-	17 Stations, <u>16</u> Vehicles (Total Fleet), 8 Park and Ride Lots, <u>5,110</u> Park and Ride Spaces, 1 Maintenance Facility.		
Transportation				
Bus Route Connections	-	<u>60</u>	+9	+9
Pedestrian & Bicycle Connections	-	<u>33</u>	+4	+5
Pedestrian & Bicycle at-grade crossings	-	<u>41</u>	+0	+0
Parking Spaces Impacted	-	<u>400</u>	+30	+45
Land Use and Zoning				
	Not consistent with local planning efforts	Consistent with local planning efforts	Consistent with local planning efforts	Consistent with local planning efforts
Socio-Economic and Demographic Conditions				
Population served (2040)		<u>30,400</u>	+10,800	+10,500
Employment served (2040)		<u>66,800</u>	+37,900	+37,900
Socio-Economic Indicators (%)		Minority, <u>51%</u> , Below Poverty <u>32%</u> , Zero-Car Households <u>22%</u> , LEP <u>18%</u>		
Neighborhoods and Community Resources				
	No Impact	Impacts to Community Resources (CR)	-	-
Visual and Aesthetic Considerations				
	Low-High	Low-High	-	-
Cultural, Historic, and Archaeological Resources				
Historic Properties Potentially Affected		TBD		
Archeological Sites requiring further investigation	-	<u>7</u>	-	-
Public Parkland and Recreational Areas				
Parklands (acres)	-	<u>11.6</u>	-	-
Recreational trails (at-grade crossings)	-	<u>0</u>	-	-

*LRA consists of common alignment segments that are outside the various alternatives. Underlining indicates data that is subject to change due to alignment refinement.



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Natural Resources				
Biotic Resources Total (acres)	-	<u>230</u>	-	-
Bottomland	-	0	-	-
Alluvial	-	3	-	-
Mesic Mixed	-	66	-	-
Maintained/Disturbed	-	<u>161</u>	-	-
Protected Species	-	0	-	-
Water Resources				
Stream Impacts (linear feet)	-	<u>1,693</u>	-	-
Riparian Zone 1 (sq. ft.) (acres)	-	<u>122,036 (2.8)</u>	-	-
Riparian Zone 2 (sq. ft.) (acres)	-	<u>95,250 (2.2)</u>	-	-
Wetland Impacts (#/acres)	-	<u>2 (0.09)</u>	0 (0.0)	0 (0.0)
Pond Impacts (#/acres)	-	<u>0 (0.0)</u>	0 (0.0)	0 (0.0)
Floodplain Impacts (100-Year) (acres)	-	<u>5.7</u>	-	-
Floodway Impacts (acres)	-	<u>0.7</u>	-	-
Air Quality				
<i>All modeled concentrations are below the National Ambient Air Quality Standards (NAAQS)</i>				
Noise and Vibration				
Noise Impacts	-	<u>5</u>	-	-
Vibration Impacts	-	<u>25</u>	-	-
Hazardous, Contaminated, and Regulated Materials				
High Risk Sites	-	<u>37</u>	-	-
Medium Risk Sites	-	<u>76</u>	-	-
Acquisitions, Relocations, and Displacements				
Full Acquisitions and Displacements	-	<u>45</u>	-	-
Partial Acquisitions	-	<u>105</u>	-	-
Other Displacements	-	<u>13</u>	-	-

*LRA consists of the segments that are not within the various alternatives. Underlining indicates data that is subject to change as a result of change as a result of refinement.

*LRA consists of common alignment segments that are outside the various alternatives. Underlining indicates data that is subject to change due to alignment refinement.



Factor	Ridership		Incremental additional ridership by alternative	
	No Build	Low Ridership alternatives*	Duke Eye Center Alt.	Trent/ Flowers Alt.
Transportation Light Rail Transit Ridership (2040 weekday)	-	<u>23,560</u>	=	<u>+280</u>

* “Low Ridership alternatives” consists of the combination of alternatives that have the lowest projected ridership – common segments and the C1A, NHC 1, and Duke Eye Care Center Station alternatives.

Factor	Ridership		Incremental reduced energy use by alternative	
	No Build	High Energy Use alternatives*	Duke Eye Center Alt.	Trent/ Flowers Alt.
Energy Use Reduction in Annual Energy Use (billions, BTU)	<u>137,049</u>	<u>136,978</u>	=	<u>-3</u>

* “Low Energy Use alternatives” consists of the combination of alternatives that have the highest projected energy use – common segments and the C1A, NHC 1, and Duke Eye Care Center Station alternatives.

Factor	Ridership		Incremental additional capital costs by alternative	
	No Build	Low Capital Cost alternatives*	Duke Eye Center Alt.	Trent/ Flowers Alt.
Capital Cost Light Rail Capital Costs (2015 \$) (millions)	-	<u>\$1,522</u>	=	=

* “Low Capital Cost alternatives” consists of the combination of alternatives that have the lowest projected capital costs – common segments and the C2, NHC LPA, and either Duke/VA Medical Centers Station alternatives.

Factor	Ridership		Incremental additional operating costs by alternative	
	No Build	Low Operating Cost alternatives*	Duke Eye Center Alt.	Trent/ Flowers Alt.
Operating Cost Annual Light Rail Operating and Maintenance Costs (2014 \$) (thousands)	--	<u>\$16,846</u>	=	=

* “Low Operating Cost alternatives” consists of the combination of alternatives that have the lowest projected operating costs – common segments and the C1, NHC LPA, and either Duke/VA Medical Centers station alternatives.

Underlining indicates data that is subject to change due to alignment refinement.