

## Appendix A: TIER 1 Alternatives Analysis

### Detailed Rating Summary

1A Commuter Rail					
From	To	Synopsis	Criterion	Score	Justification
Gainesville-Haymarket	DC	<p>New commuter rail service from G-H to DC overlaying existing service on VRE Manassas Line from Broad Run to DC.</p> <p>Utilizes a portion of NS ROW.</p> <p>Exceeds Manassas Line allocation of VRE's 40 train per day maximum to accommodate additional off-peak and reverse direction service in the G-H to DC corridor.</p> <p>Slight reduction in the peak period service frequency between Broad Run and Manassas, but increases the service frequency east of Manassas into Alexandria and DC.</p>	Access / Mobility	2	<ol style="list-style-type: none"> <li>1. Improves regional transit access and local mobility for G-H to Manassas and DC.</li> <li>2. Slight reduction in peak period service from Broad Run, but increases service frequency from Manassas to DC.</li> <li>3. Potential for multi-modal connections at stations.</li> <li>4. Provides increased off-peak and reverse direction service.</li> </ol>
			Traffic Congestion	1	<ol style="list-style-type: none"> <li>1. Increases total number of VRE system trains (beyond the current 40 per day maximum).</li> <li>2. Anticipated to take single occupancy vehicles off of the road.</li> <li>3. At-grade crossings may slow local road traffic.</li> </ol>
			Environmental	0	<ol style="list-style-type: none"> <li>1. Reduces emissions caused by single occupancy vehicles.</li> <li>2. Uses a portion of existing NS ROW.</li> <li>3. May need some additional ROW.</li> <li>4. Potential station location impacts.</li> </ol>
			Smart Growth / Economic Devices	2	<ol style="list-style-type: none"> <li>1. Supports TOD development in a transit corridor and within Centers of Commerce and Community identified by Prince William County.</li> <li>2. Supports economic growth for the area serviced by the extended corridor.</li> <li>3. Off-peak and reverse direction service will provide additional TOD opportunities in the corridor.</li> </ol>
			Capital Costs / Effectiveness	-1	<ol style="list-style-type: none"> <li>1. Some additional ROW may be needed, particularly if multiple tracks are added.</li> <li>2. Must purchase additional trains and equipment to support G-H service and maintain full service on existing Manassas Line.</li> <li>3. Ability to collocate service and additional infrastructure with existing NS ROW.</li> <li>4. Ability to utilize, to some extent, existing NS rail infrastructure.</li> </ol>
			Implementation	-1	<ol style="list-style-type: none"> <li>1. VRE Must negotiate additional slots for trains above the 40 trains per day maximum.</li> <li>2. Able to utilize part of existing NS corridor.</li> <li>3. Comparable system/transit mode already in use in corridor.</li> <li>4. Requires additional equipment purchases.</li> </ol>
Total				<b>3</b>	

**Note:** Commuter rail options may include a slight deviation from the NS B Line corridor if this is determined to be beneficial in subsequent phases of the study.

1B Commuter Rail					
From	To	Synopsis	Criterion	Score	Justification
Gainesville-Haymarket	DC	<p>New commuter rail service from G-H to DC.</p> <p>Utilizes a portion of NS ROW.</p> <p>Not to exceed the 40 train per day limit for the entire VRE system.</p> <p>Evenly divides the Manassas Line allocation of the 40 train per day maximum for the entire VRE system between the existing Manassas Line (Broad Run to DC) and the new service (G-H to DC).</p> <p>Provides less frequent service for riders from Broad Run, but more frequent service east of Manassas.</p>	Access / Mobility	1	<ol style="list-style-type: none"> <li>1. Improves regional transit access and local mobility for G-H to Manassas and DC.</li> <li>2. Less frequent service for Broad Run, but more frequent service east of Manassas.</li> <li>3. Potential for multi-modal connections at stations.</li> </ol>
			Traffic Congestion	0	<ol style="list-style-type: none"> <li>1. Increases total number of VRE system trains (up to the current 40 per day maximum).</li> <li>2. Anticipated to take single occupancy vehicles off of the road.</li> <li>3. Some existing riders on the currently configured Manassas Line service may elect not to take VRE in the future due to reduced service frequencies from Broad Run.</li> <li>4. At-grade crossings may slow local road traffic.</li> </ol>
			Environmental	0	<ol style="list-style-type: none"> <li>1. Reduces emissions caused by single occupancy vehicles.</li> <li>2. Utilizes a portion of existing NS ROW.</li> <li>3. May need some additional ROW.</li> <li>4. Potential station location impacts.</li> </ol>
			Smart Growth / Economic Devices	1	<ol style="list-style-type: none"> <li>1. Supports TOD development in a transit corridor and within Centers of Commerce and Community identified by Prince William County.</li> <li>2. Limited number of trains due to the 40 per day maximum may limit activity at station hubs.</li> <li>3. Supports economic growth for the area serviced by the extended corridor.</li> </ol>
			Capital Costs / Effectiveness	0	<ol style="list-style-type: none"> <li>1. Some additional ROW may be needed, particularly if additional tracks are added.</li> <li>2. Must purchase additional trains and equipment to support G-H service and maintain partial service on existing Manassas Line.</li> <li>3. Ability to colocate service and additional infrastructure with existing NS ROW.</li> <li>4. Ability to utilize, to some extent, existing NS rail infrastructure.</li> </ol>
			Implementation	0	<ol style="list-style-type: none"> <li>1. Requires additional equipment purchases.</li> <li>2. Able to use existing NS corridor.</li> <li>3. Comparable system/transit mode already in use in corridor.</li> </ol>
			Total	2	

**Note:** Commuter rail options may include a slight deviation from the NS B Line corridor if this is determined to be beneficial in subsequent phases of the study.

1C Commuter Rail							
From	To	Synopsis	Criterion	Score	Justification		
Gainesville-Haymarket	Alexandria/DC	<p>New commuter rail service from G-H to DC and new commuter rail shuttle service from G-H to Alexandria.</p> <p>Utilizes a portion of NS ROW.</p>	Access / Mobility	1	<ol style="list-style-type: none"> <li>1. Improves regional transit access and local mobility for G-H to Manassas and DC.</li> <li>2. Less frequent service for Broad Run, but increased service east of Manassas.</li> <li>3. Potential for multi-modal connections at stations.</li> <li>4. Increased reverse commute service.</li> </ol>		
			Traffic Congestion	1	<ol style="list-style-type: none"> <li>1. Increases total number of VRE system trains (up to the current 40 per day maximum).</li> <li>2. Anticipated to take single occupancy vehicles off of the road.</li> <li>3. Some existing riders on the currently configured Manassas Line service may elect not to take VRE in the future due to reduced service frequencies from Broad Run, but this will be minimized with the addition of the shuttle from G-H to DC.</li> <li>4. At-grade crossings may slow local road traffic.</li> </ol>		
		<p>Service from G-H to DC will adhere to the 40 train per day maximum allocation. It will evenly divide the Manassas Line allocation of the 40 train per day maximum for the entire VRE system between the existing Manassas Line (Broad Run to DC) and the new service (G-H to DC).</p> <p>Shuttle service to Alexandria will supplement the new service from G-H to DC by providing a connection to Metrorail at Alexandria.</p>	Environmental	0	<ol style="list-style-type: none"> <li>1. Reduces emissions caused by single occupancy vehicles.</li> <li>2. Utilizes a portion of NS ROW.</li> <li>3. May need some additional ROW.</li> <li>4. Potential station location impacts.</li> </ol>		
			Smart Growth / Economic Devices	2	<ol style="list-style-type: none"> <li>1. Supports TOD development in a transit corridor and within Centers of Commerce and Community identified by Prince William County.</li> <li>2. Limited number of trains due to the 40 per day maximum may limit activity at station hubs, although rail shuttle will help alleviate this.</li> <li>3. Supports economic growth for the area serviced by the extended corridor.</li> </ol>		
		<p>Shuttle provides all-day reverse commute service.</p> <p>Provides less frequent peak period service for riders from Broad Run, but increased peak period service east of Manassas.</p>	Capital Costs / Effectiveness	0	<ol style="list-style-type: none"> <li>1. Some additional ROW may be needed, particularly if multiple tracks are added.</li> <li>2. Must purchase additional trains and equipment to meet the 40 train per day maximum, split between the new G-H branch and the existing Manassas Line to Broad Run.</li> <li>3. Must purchase additional trains and equipment to run the shuttle commuter rail service.</li> <li>4. Ability to colocate service and additional infrastructure with existing NS ROW.</li> <li>5. Ability to utilize, to some extent, existing NS rail infrastructure.</li> </ol>		
			Implementation	0	<ol style="list-style-type: none"> <li>1. Requires additional equipment purchases.</li> <li>2. Able to use a portion of existing NS corridor.</li> <li>3. Comparable system/transit mode already in use in corridor.</li> </ol>		
		<b>Total</b>				<b>4</b>	

**Note:** Commuter rail options may include a slight deviation from the NS B Line corridor if this is determined to be beneficial in subsequent phases of the study.

1D Commuter Rail						
From	To	Synopsis	Criterion	Score	Justification	
Gainesville-Haymarket	DC	<p>New commuter rail service from G-H to Broad Run to DC.</p> <p>Utilizes a portion of NS ROW.</p> <p>Service would travel from G-H to Manassas, then west to Broad Run. Train would reverse direction at Broad Run and travel into DC, making all existing stops.</p> <p>Not to exceed the 40 train per day limit.</p> <p>Slight increase in the total number of trains on the existing VRE Manassas Line between Broad Run and DC as a result of the new service.</p>	Access / Mobility	0	<ol style="list-style-type: none"> <li>1. Improves regional transit access and local mobility for G-H to Manassas and DC.</li> <li>2. Improves existing service for Broad Run.</li> <li>3. Potential for multi-modal connections at stations.</li> <li>4. Route through Broad Run increases travel time for G-H patrons.</li> <li>5. Option is not compatible with VRE extension from Broad Run to Bealeton, which is in VRE's Strategic Plan.</li> </ol>	
			Traffic Congestion	0	<ol style="list-style-type: none"> <li>1. Increases total number of VRE system trains (up to the current 40 per day maximum).</li> <li>2. Anticipated to take single occupancy vehicles off of the road.</li> <li>3. Some future riders on the new service from G-H to Broad Run to DC may not elect not to take VRE due to the lengthy travel time.</li> <li>4. At-grade crossings may slow local road traffic.</li> </ol>	
			Environmental	0	<ol style="list-style-type: none"> <li>1. Reduces emissions caused by single occupancy vehicles.</li> <li>2. Uses part of existing NS ROW.</li> <li>3. May need some additional ROW.</li> <li>4. Potential station location impacts.</li> </ol>	
			Smart Growth / Economic Devices	1	<ol style="list-style-type: none"> <li>1. Supports TOD development in a transit corridor and within Centers of Commerce and Community identified by Prince William County.</li> <li>2. Lengthy travel time may limit riders from G-H to Broad Run to DC and decrease activity at station hubs.</li> <li>3. Supports economic growth for the area serviced by the extended corridor.</li> </ol>	
			Capital Costs / Effectiveness	0	<ol style="list-style-type: none"> <li>1. Some additional ROW may be needed, particularly if additional tracks are added.</li> <li>2. Must purchase additional trains and equipment to meet the 40 train per day maximum.</li> <li>3. Ability to colocate service and additional infrastructure with existing NS ROW.</li> <li>4. Ability to utilize, to some extent, existing NS rail infrastructure.</li> </ol>	
			Implementation	0	<ol style="list-style-type: none"> <li>1. Requires additional equipment purchases.</li> <li>2. Able to use existing NS corridor.</li> <li>3. Comparable system/transit mode already in use in corridor.</li> </ol>	
			Total	1		

**Note:** Commuter rail options may include a slight deviation from the NS B Line corridor if this is determined to be beneficial in subsequent phases of the study.

2A Light Rail					
From	To	Synopsis	Criterion	Score	Justification
Gainesville-Haymarket	Manassas/DC	<p>Light rail shuttle operating from G-H to Manassas along NS Corridor.</p> <p>Service would connect in reasonable time frames to VRE commuter rail service from Manassas to DC.</p> <p>No change in VRE service on Manassas Line from Broad Run to DC.</p>	Access / Mobility	1	<ol style="list-style-type: none"> <li>1. Improves regional transit access and local mobility for G-H to Manassas and DC.</li> <li>2. Potential for multi-modal connections at stations.</li> <li>3. Connection at Manassas from light rail shuttle to VRE will deter some potential riders.</li> </ol>
			Traffic Congestion	0	<ol style="list-style-type: none"> <li>1. Addition of light rail is anticipated to take single occupancy vehicles off of the road.</li> <li>2. Potential riders may elect not to take the light rail to Manassas and then commuter rail to DC due to the lengthy travel time and required transfer.</li> <li>3. At-grade crossings may slow local road traffic.</li> <li>4. Avoids traffic congestion associated with in-street running.</li> </ol>
			Environmental	-1	<ol style="list-style-type: none"> <li>1. Reduces emissions caused by single occupancy vehicles.</li> <li>2. May not be able to use any existing NS ROW.</li> <li>3. Will need additional ROW to accommodate two completely separate systems in one corridor (light rail and NS freight rail).</li> <li>4. Potential station location impacts.</li> </ol>
			Smart Growth / Economic Devices	1	<ol style="list-style-type: none"> <li>1. Supports TOD development in a transit corridor and within Centers of Commerce and Community identified by Prince William County.</li> <li>2. Lengthy travel time and required connection may limit riders from G-H to Manassas and decrease activity at station hubs.</li> <li>3. Supports economic growth for the area serviced by the extended corridor.</li> </ol>
			Capital Costs / Effectiveness	-2	<ol style="list-style-type: none"> <li>1. Additional ROW will be needed to accommodate light rail alongside the existing NS freight rail.</li> <li>2. Must purchase completely new full fleet of different technology equipment.</li> <li>3. Independent infrastructure required, including maintenance facility, vehicle storage, guideway, and signal system.</li> <li>4. Must hire and train new operations and maintenance staff.</li> </ol>
			Implementation	-2	<ol style="list-style-type: none"> <li>1. Need full system components, including equipment, signals, and track.</li> <li>2. Joint use of existing freight rail ROW is an issue.</li> <li>3. Administrative and operating organization needed.</li> </ol>
			<b>Total</b>	<b>-3</b>	

2B Light Rail					
From	To	Synopsis	Criterion	Score	Justification
Gainesville-Haymarket	Manassas/DC	<p>Light rail shuttle operating from G-H to Manassas along existing roadway network.</p> <p>Service would connect in reasonable time frames to VRE commuter rail service from Manassas to DC.</p> <p>No change in VRE service on Manassas Line from Broad Run to DC.</p>	Access / Mobility	1	<ol style="list-style-type: none"> <li>1. Improves regional transit access and local mobility for G-H to Manassas and DC.</li> <li>2. Potential for multi-modal connections at stations.</li> <li>3. Slower speeds due to in-street running operations.</li> <li>4. Connection at Manassas from light rail shuttle to VRE will deter some potential riders.</li> </ol>
			Traffic Congestion	-1	<ol style="list-style-type: none"> <li>1. Addition of light rail is anticipated to take single occupancy vehicles off of the road.</li> <li>2. Potential riders may elect not to take the light rail to Manassas and then commuter rail to DC due to the lengthy travel time and required connection.</li> <li>3. At-grade crossings may slow local road traffic.</li> <li>4. In-street running creates additional traffic congestion.</li> </ol>
			Environmental	-1	<ol style="list-style-type: none"> <li>1. Reduces emissions caused by single occupancy vehicles.</li> <li>2. Will need additional street ROW to accommodate in-street running light rail system.</li> <li>3. Potential station location impacts.</li> </ol>
			Smart Growth / Economic Devices	1	<ol style="list-style-type: none"> <li>1. Supports TOD development in a transit corridor and within Centers of Commerce and Community identified by Prince William County.</li> <li>2. Lengthy travel time and required connection may limit riders from G-H to Manassas and decrease activity at station hubs.</li> <li>3. Supports economic growth for the area serviced by the extended corridor.</li> </ol>
			Capital Costs / Effectiveness	-2	<ol style="list-style-type: none"> <li>1. Additional street ROW will be needed to accommodate light rail system in roadway network.</li> <li>2. Must purchase completely new full fleet of different technology equipment.</li> <li>3. Independent infrastructure required, including maintenance facility, vehicle storage, guideway, and signal system.</li> <li>4. Must hire and train new operations and maintenance staff.</li> <li>5. Street running LRT is typically implemented where existing or anticipated ridership and land use demands LRT capacity and amenities. Alternative not likely to meet FTA cost-effectiveness thresholds.</li> </ol>
			Implementation	-2	<ol style="list-style-type: none"> <li>1. Need full system components, including equipment, signals, and track.</li> <li>2. Potential infrastructure complications with implementing an in-street running LRT system.</li> <li>3. Administrative and operating organization needed.</li> </ol>
			Total	-4	

3A Heavy Rail					
From	To	Synopsis	Criterion	Score	Justification
Gainesville-Haymarket	Vienna/DC	<p>Extension of Metro Rail (heavy rail system) in I-66 ROW from Vienna to G-H.</p> <p>Intermediate stops between G-H and Vienna.</p> <p>No change in VRE Manassas Line service.</p>	Access / Mobility	2	<ol style="list-style-type: none"> <li>1. Improves regional transit access and local mobility for G-H to DC via the Metro to an extended system with more destinations.</li> <li>2. Maintains existing VRE service from Broad Run to DC.</li> <li>3. Potential for multi-modal connections at stations.</li> </ol>
			Traffic Congestion	1	1. Extension of Metro Rail is anticipated to take single occupancy vehicles off of the road.
			Environmental	-1	<ol style="list-style-type: none"> <li>1. Reduces emissions caused by single occupancy vehicles.</li> <li>2. Will need additional ROW along I-66 to accommodate extension.</li> <li>3. Potential station location impacts.</li> </ol>
			Smart Growth / Economic Devices	2	<ol style="list-style-type: none"> <li>1. Supports TOD development in a transit corridor and within Centers of Commerce and Community identified by Prince William County.</li> <li>2. Stations along I-66 are less likely to support TOD than stations outside major highway corridors.</li> <li>3. Supports economic growth for the area serviced by the extended corridor.</li> </ol>
			Capital Costs / Effectiveness	-2	<ol style="list-style-type: none"> <li>1. Additional ROW needed along I-66 for the Metro Rail line and associated stations along the extension.</li> <li>2. Must purchase additional equipment.</li> <li>3. Independent infrastructure required, including maintenance facility, vehicle storage, guideway, and signal system.</li> <li>4. Extension would create a line that is substantially longer than existing Metrorail corridors.</li> <li>5. Rider demand may not match rider capacity of HRT.</li> </ol>
			Implementation	-2	<ol style="list-style-type: none"> <li>1. Requires extensive study and identification of new funding sources.</li> <li>2. Rosslyn Tunnel limits potential branching and headway increases beyond current Vienna Line headways.</li> <li>3. Need full system components, including all trains, equipment, signals, and track.</li> <li>4. Potential infrastructure complications with implementing an extension of the Metrorail adjacent to I-66.</li> </ol>
			Total	0	

4A People Mover					
From	To	Synopsis	Criterion	Score	Justification
Gainesville-Haymarket	Manassas/DC	<p>People mover shuttle operating from G-H to Manassas along NS Corridor.</p> <p>Service would connect in reasonable time frames to VRE commuter rail service from Manassas to DC.</p> <p>No change in VRE service on Manassas Line from Broad Run to DC.</p>	Access / Mobility	1	<p>1. Improves regional transit access and local mobility for G-H to Manassas and DC.</p> <p>2. Potential for multi-modal connections at stations.</p> <p>3. Transfer at Manassas from people mover shuttle to VRE will deter some potential riders.</p>
			Traffic Congestion	1	<p>1. The people mover is an elevated system and will not result in additional traffic congestion.</p> <p>2. Addition of a people mover is anticipated to take single occupancy vehicles off of the road.</p> <p>3. Potential riders may elect not to take the people mover to Manassas and then commuter rail to DC due to the lengthy travel time and required connection.</p>
			Environmental	-1	<p>1. Viewshed may be obstructed due to elevated system.</p> <p>2. Reduces emissions caused by single occupancy vehicles.</p> <p>3. May not be able to use any existing NS ROW.</p> <p>4. Will need additional ROW to accommodate two completely separate systems in one corridor (people mover and NS freight rail).</p> <p>5. Potential station location impacts.</p>
			Smart Growth / Economic Devices	1	<p>1. Supports TOD development in a transit corridor and within Centers of Commerce and Community identified by Prince William County.</p> <p>2. Lengthy travel time and required connection may limit riders from G-H to Manassas and decrease activity at station hubs.</p> <p>3. Supports economic growth for the area serviced by the extended corridor.</p>
			Capital Costs / Effectiveness	-2	<p>1. Additional ROW will be needed to accommodate people mover alongside the existing NS freight rail.</p> <p>2. Must purchase completely new full fleet of different technology equipment.</p> <p>3. Independent infrastructure required, including maintenance facility, vehicle storage, guideway, and signal system.</p> <p>4. Must hire and train new operations and maintenance staff.</p> <p>5. Elevated people mover is typically implemented where existing or anticipated ridership and land use demand grade-separated transit. Alternative not likely to meet FTA cost-effectiveness thresholds.</p>
			Implementation	-2	<p>1. Need full system components, including equipment, signals, and track.</p> <p>2. Joint use of existing freight rail ROW is an issue.</p> <p>3. Administrative and operating organization needed.</p>
			Total	-2	

4B People Mover					
From	To	Synopsis	Criterion	Score	Justification
Gainesville-Haymarket	Manassas/ DC	<p>People mover shuttle operating from G-H to Manassas along existing roadway network.</p> <p>Service would connect in reasonable time frames to VRE commuter rail service from Manassas to DC.</p> <p>No change in VRE service on Manassas Line from Broad Run to DC.</p>	Access / Mobility	1	<ol style="list-style-type: none"> <li>1. Improves regional transit access and local mobility for G-H to Manassas and DC.</li> <li>2. Potential for multi-modal connections at stations.</li> <li>3. Connection at Manassas from people mover shuttle to VRE will deter some potential riders.</li> </ol>
			Traffic Congestion	1	<ol style="list-style-type: none"> <li>1. The people mover is an elevated system and will not result in additional traffic congestion.</li> <li>2. Addition of a people mover is anticipated to take single occupancy vehicles off of the road.</li> <li>3. Potential riders may elect not to take the people mover to Manassas and then commuter rail to DC due to the lengthy travel time and required connection.</li> </ol>
			Environmental	-1	<ol style="list-style-type: none"> <li>1. Viewshed may be obstructed due to elevated system.</li> <li>2. Reduces emissions caused by single occupancy vehicles.</li> <li>3. Will need additional street ROW to accommodate people mover system.</li> </ol>
			Smart Growth / Economic Devices	1	<ol style="list-style-type: none"> <li>1. Supports TOD development in a transit corridor and within Centers of Commerce and Community identified by Prince William County.</li> <li>2. Lengthy travel time and required connection may limit riders from G-H to Manassas and decrease activity at station hubs.</li> <li>3. Supports economic growth for the area serviced by the extended corridor.</li> </ol>
			Capital Costs / Effectiveness	-2	<ol style="list-style-type: none"> <li>1. Additional street ROW will be needed to accommodate people mover system in roadway network.</li> <li>2. Must purchase completely new full fleet of different technology equipment.</li> <li>3. Independent infrastructure required, including maintenance facility, vehicle storage, guideway, and signal system.</li> <li>4. Must hire and train new operations and maintenance staff.</li> <li>5. Elevated people mover is typically implemented where existing or anticipated ridership and land use demand grade-separated transit. Alternative not likely to meet FTA cost-effectiveness thresholds.</li> </ol>
			Implementation	-2	<ol style="list-style-type: none"> <li>1. Need full system components, including all trains, equipment, signals, and track.</li> <li>2. Potential infrastructure complications with implementing an in-street running people mover system.</li> <li>3. Administrative and operating organization needed.</li> </ol>
			<b>Total</b>	<b>-2</b>	

5A Commuter Bus					
From	To	Synopsis	Criterion	Score	Justification
Gainesville-Haymarket	Broad Run/DC	<p>New bus service from G-H to Broad Run VRE station.</p> <p>Service would connect in reasonable time frames to VRE commuter rail service from Broad Run to DC.</p> <p>No change in VRE service on Manassas Line from Broad Run to DC.</p> <p>Branding/Joint VRE service.</p>	Access / Mobility	1	<ol style="list-style-type: none"> <li>Improves regional transit access and local mobility for G-H to Manassas and DC.</li> <li>Maintains existing service for Broad Run.</li> <li>G-H to Broad Run is not a direct connection to DC.</li> </ol>
			Traffic Congestion	1	<ol style="list-style-type: none"> <li>New bus service is anticipated to take single occupancy vehicles off of the road.</li> <li>Potential riders may elect not to take the bus to Broad Run and then commuter rail to DC due to the lengthy travel time and required connection.</li> </ol>
			Environmental	0	<ol style="list-style-type: none"> <li>No significant change in emissions from single occupancy vehicles .</li> <li>No additional ROW is anticipated.</li> <li>Potential park and ride location impacts.</li> </ol>
			Smart Growth / Economic Devices	0	<ol style="list-style-type: none"> <li>No TOD hub created along G-H corridor.</li> </ol>
			Capital Costs / Effectiveness	1	<ol style="list-style-type: none"> <li>Must purchase new buses and branding of service.</li> <li>Ability to utilize existing roadway infrastructure.</li> </ol>
			Implementation	1	<ol style="list-style-type: none"> <li>Comparable system/transit mode already in use for a portion of the route.</li> <li>Requires additional equipment purchases.</li> <li>Requires new or expanded maintenance and storage facilities.</li> </ol>
			<b>Total</b>	<b>4</b>	

5B Commuter Bus					
From	To	Synopsis	Criterion	Score	Justification
Gainesville-Haymarket	DC	<p>New bus service from G-H to DC (Pentagon) via Cushing Park and Ride Lot and the State Department.</p> <p>Using HOV lanes.</p> <p>No intermediate stops.</p> <p>Branding/Joint VRE service.</p>	Access / Mobility	1	<ol style="list-style-type: none"> <li>1. Improves regional transit access from G-H to DC.</li> <li>2. Does not change existing Manassas Line service.</li> <li>3. Service may not be as fast and reliable as service providing a transfer to Metrorail.</li> </ol>
			Traffic Congestion	1	<ol style="list-style-type: none"> <li>1. New bus service is anticipated to take single occupancy vehicles off of the road.</li> <li>2. Congestion on HOV lanes and in entering downtown DC may result in longer travel times for riders, as well as increased congestion.</li> </ol>
			Environmental	0	<ol style="list-style-type: none"> <li>1. No significant change in emissions from single occupancy vehicles.</li> <li>2. No additional ROW is needed.</li> <li>3. Potential park and ride location impacts.</li> </ol>
			Smart Growth / Economic Devices	0	<ol style="list-style-type: none"> <li>1. No TOD hub created along G-H corridor.</li> </ol>
			Capital Costs / Effectiveness	1	<ol style="list-style-type: none"> <li>1. No additional ROW is needed.</li> <li>2. Must purchase new buses.</li> <li>3. Ability to utilize existing roadway infrastructure.</li> <li>4. High operating cost per passenger.</li> </ol>
			Implementation	1	<ol style="list-style-type: none"> <li>1. No new infrastructure is needed.</li> <li>2. Comparable system/transit mode already in use for a portion of the route.</li> <li>3. Requires additional equipment purchases.</li> <li>4. Requires new or expanded maintenance and storage facilities.</li> </ol>
			<b>Total</b>	<b>4</b>	

6A Bus Rapid Transit					
From	To	Synopsis	Criterion	Score	Justification
Gainesville-Haymarket	Manassas/ DC	<p>Bus rapid transit shuttle operating from G-H to Manassas along NS Corridor in an exclusive ROW.</p> <p>Service would connect in reasonable time frames to VRE commuter rail service from Manassas to DC.</p> <p>No change in VRE service on Manassas Line from Broad Run to DC.</p> <p>Branding/Joint VRE service.</p>	Access / Mobility	1	<ol style="list-style-type: none"> <li>1. Improves regional transit access and local mobility for G-H to Manassas and DC.</li> <li>2. Potential for multi-modal connections at stations.</li> <li>3. Connection at Manassas from bus rapid transit shuttle to VRE will deter some potential riders.</li> </ol>
			Traffic Congestion	0	<ol style="list-style-type: none"> <li>1. Addition of bus rapid transit shuttle is anticipated to take single occupancy vehicles off of the road.</li> <li>2. Potential riders may elect not to take the bus rapid transit shuttle to Manassas and then commuter rail to DC due to the lengthy travel time and required transfer.</li> <li>3. At-grade crossings may slow local road traffic.</li> </ol>
			Environmental	-1	<ol style="list-style-type: none"> <li>1. Reduces emissions caused by single occupancy vehicles.</li> <li>2. May not be able to use any existing NS ROW.</li> <li>3. Will need additional ROW to accommodate two completely separate systems in one corridor (bus rapid transit shuttle and NS freight rail).</li> <li>4. Potential station location impacts.</li> </ol>
			Smart Growth / Economic Devices	1	<ol style="list-style-type: none"> <li>1. Supports TOD development in a transit corridor and within Centers of Commerce and Community identified by Prince William County.</li> <li>2. Lengthy travel time and required connection may limit riders from G-H to Manassas and decrease activity at station hubs.</li> <li>3. Supports economic growth for the area serviced by the extended corridor.</li> </ol>
			Capital Costs / Effectiveness	-1	<ol style="list-style-type: none"> <li>1. Additional ROW will be needed to accommodate bus rapid transit shuttle alongside the existing NS freight rail.</li> <li>2. Must purchase completely new full fleet of different technology equipment.</li> <li>3. Independent infrastructure required, including maintenance facility, vehicle storage, guideway, and signal system.</li> </ol>
			Implementation	-1	<ol style="list-style-type: none"> <li>1. Need full system components, including equipment, signals, and busway.</li> <li>2. Joint use of existing freight rail ROW is an issue.</li> <li>3. Requires new or expanded maintenance and storage facilities.</li> </ol>
			Total	-1	

6B Bus Rapid Transit								
From	To	Synopsis	Criterion	Score	Justification			
Gainesville-Haymarket	Manassas/ DC	<p>Bus rapid transit shuttle operating from G-H to Manassas along existing roadway network in an exclusive ROW.</p> <p>Service would connect in reasonable time frames to VRE commuter rail service from Manassas to DC.</p> <p>No change in VRE service on Manassas Line from Broad Run to DC.</p> <p>Branding/Joint VRE service.</p>	Access / Mobility	1	<ol style="list-style-type: none"> <li>Improves regional transit access and local mobility for G-H to Manassas and DC.</li> <li>Potential for multi-modal connections at stations.</li> <li>Connection at Manassas from bus rapid transit shuttle to VRE will deter some potential riders.</li> </ol>			
			Traffic Congestion	0	<ol style="list-style-type: none"> <li>Addition of bus rapid transit shuttle is anticipated to take single occupancy vehicles off of the road.</li> <li>Potential riders may elect not to take the bus rapid transit shuttle to Manassas and then commuter rail to DC due to the lengthy travel time and required connection.</li> <li>At-grade crossings may slow local road traffic.</li> </ol>			
			Environmental	-1	<ol style="list-style-type: none"> <li>Reduces emissions caused by single occupancy vehicles.</li> <li>Will need additional street ROW to accommodate bus rapid transit system.</li> <li>Potential station location impacts.</li> </ol>			
			Smart Growth / Economic Devices	1	<ol style="list-style-type: none"> <li>Supports TOD development in a transit corridor and within Centers of Commerce and Community identified by Prince William County.</li> <li>Lengthy travel time and required connection may limit riders from G-H to Manassas and decrease activity at station hubs.</li> <li>Supports economic growth for the area serviced by the extended corridor.</li> </ol>			
			Capital Costs / Effectiveness	-1	<ol style="list-style-type: none"> <li>Additional street ROW will be needed to accommodate bus rapid transit system in roadway network.</li> <li>Must purchase completely new full fleet of different technology equipment.</li> <li>Independent infrastructure required, including maintenance facility, vehicle storage, guideway, and signal system.</li> </ol>			
			Implementation	-1	<ol style="list-style-type: none"> <li>Need full system components, including equipment, signals, and bus way.</li> <li>Potential infrastructure complications with implementing an exclusive ROW bus rapid transit system.</li> <li>Requires new or expanded maintenance and storage facilities.</li> </ol>			
			<b>Total</b>	<b>-1</b>				