





To: Kim Ellis, Metro and Lidwien Rahman, ODOT

From:	Susie Wright, PE and Molly McCormick, Kittelson & Associates, Inc.
Project:	Regional Mobility Policy Update

Subject: Most Promising Mobility Measures for Testing – DISCUSSION DRAFT

INTRODUCTION

Metro and the Oregon Department of Transportation (ODOT) are working together to update the regional mobility policy and related mobility measures for the Portland metropolitan area. The goal of this update is to better align the policy and measures with the comprehensive set of shared regional values, goals, and desired outcomes identified in Metro's Regional Transportation Plan (RTP) and 2040 Growth Concept, as well as with local and state goals. There is also a need to update the mobility policy to better define expectations about mobility for different travel modes based on land use context and state and regional functional classification(s) of roads in the Oregon Highway Plan and Regional Transportation Plan. The updated policy will describe the region's desired mobility outcomes and more robustly and explicitly define "acceptable and reliable" levels of mobility for people and goods using the transportation system in the Portland area.

The 'Potential Mobility Policy Elements' memorandum (**Supporting Document A**) identified outcomes related to mobility that could be reflected in an updated mobility policy. Based on stakeholder feedback during the project's scoping phase in 2019 and two workshops with the TPAC and MTAC in 2020, five key transportation outcomes were identified as integral to how we view mobility in an urban environment, specifically in the Portland region. These five outcomes, and potential measures by which to evaluate them, will be further explored through case studies to evaluate their potential for being part of the updated mobility policy:

- Access All people and goods can get where they need to go.
- **Time Efficiency** People and goods can get where they need to go in a reasonable amount of time.
- **Reliability** Travel time is reliable or predictable for all modes.
- Safety Available travel options are safe for all users.
- **Travel Options** People can get where they need to go by a variety of travel options or modes.

The 'Best Practices' memorandum (**Supporting Document B**) identified measures for each of the five policy elements. The memorandum identified 38 measures, which served as the starting point for this



memorandum. This memorandum describes the screening and selection of the most promising performance measures to test on case studies. The screening process utilized the screening criteria established in the 'Performance Measure Screening and Evaluation Criteria' memorandum (**Supporting Document C**). The memorandum identified 10 screening criteria categories, which were then pared down to access, travel choices, reliable and efficient mobility, safety, and other regional goals based on the policy elements that moved forward. Although equity is part of the "other regional goals" category, each measure that gets tested during the case studies will be further to determine if it can be utilized to verify equitable outcomes.

Considerations for the case studies include:

- Measures may be used differently for different applications (i.e. system planning versus plan amendments).
- Although there can be multiple targets that the region is measuring against, it is recommended to only have one standard per specific planning context. When there are multiple standards, it becomes more difficult to meet all.
- Not all measures are easily applied as a standard. At the system-level, a measure may be applied as a target, with assessment whether a system is trending appropriately or if a project is projected to move the system closer to the target.

SCREENING PROCESS

TPAC and MTAC provided feedback on criteria to be used to screen and select potential mobility performance measures for testing. The Consultant team applied the criteria through a four-step process (shown in **Figure 1**) to narrow the 38 potential mobility measures to 12 potential mobility measures that appear most promising for testing through case studies.



Figure 1: Screening Process to Inform Selection of Most Promising Measures for Testing

As shown in **Figure 1**, the first step was completed in the **Supporting Document B** when measures for each policy element were identified. Step 1 resulted in a list of 38 potential measures. Steps 2 through 4 were then conducted and are reported in this memorandum.

In **Step 2**, the Consultant team conducted an initial screening of the 38 potential measures. **Figure 2** highlights the screening criteria used, established in **Supporting Document C**. The full screening





matrix is provided in **Attachment A**. The outcome of the screening process in Step 2 was a score for each potential measure, shown in **Table 1**.

In **Step 3**, the Consultant team ranked the measures according to their screening evaluation score and the top scored measures for each policy element were identified. A number of measures that scored higher than others were not moved forward in Step 3 in order to include at least four measures per policy element. For example, accessibility to employment was a highly scored measure overall but was the seventh ranked access policy element measure and not moved forward. Because there are measures that relate to more than one policy element, the list from Step 3 was checked to include at least the top four scores from each policy element group. Step 3 resulted in a reduced list of 17 potential measures from 38.

In **Step 4**, the Consultant team further refined the list to reduce the list to the most promising measures to move forward for testing with case studies. As further described in the following tables, the team reduced the list to 12 measures based on a high-level review of four additional factors:

- Ease of analysis Are the measures reasonably simple to analyze?
- **Direct correlation to mobility** Do the measures evaluate mobility or do they evaluate outcomes of mobility?
- Lack of overlap with other measures Are the measures unique and evaluate different aspects of mobility?

Step 4 can be considered an initial qualitative analysis of several key future evaluation criteria, but all evaluation criteria from **Supporting Document C** will be applied and scored through the case studies. Exact methodologies for the measures for testing will be determined, measure output will be created, and scorings based on the evaluation criteria will be completed in the case studies. This information will then guide development of the updated mobility policy.

The most promising measures from Step 4 in order by highest screening score are:

Measure	ID
Multimodal Level of Service (MMLOS)	13A
Level of Traffic Stress (LTS)	13B
Pedestrian Crossing Index	15
System Completeness	24
Accessibility to Destinations	2
Travel Speed	27
VMT per Capita	36
Hours of Congestion/Duration of Congestion	10
Travel Time Reliability (Planning and Buffer Travel Time Indexes)	29
Travel Time	28
	MeasureMultimodal Level of Service (MMLOS)Level of Traffic Stress (LTS)Pedestrian Crossing IndexSystem CompletenessAccessibility to DestinationsTravel SpeedVMT per CapitaHours of Congestion/Duration of CongestionTravel Time Reliability (Planning and Buffer Travel Time Indexes)Travel Time



1.75	V/C for Roadway Links	38
0.92	Volume-to-Capacity Ratio (V/C) at Intersections	37

After feedback from policymakers, practitioners, community leaders, and other stakeholders, a further reduced list of measures will be evaluated through the case studies to determine which will be incorporated into the updated regional mobility policy.



Many of the measures that were not advanced through this four-step process are good measures for system planning that should continue to be used in system planning even if not being considered for incorporation into the mobility policy.

The following sections are organized by policy element and describe the screening steps completed to identify the most promising performance measures. **Figures 3 through 7** show the measures that moved forward for each screening step and the reasoning for specific measures being removed from the list. **Tables 2 through 6** describe the most promising performance measures by mobility policy element, including measure descriptions, related policy elements, and applicable planning applications.





Figure 2: Screening Criteria Applied

Access ¹	 Does the measure help estimate potential increase in access to opportunities, social connections, and goods for all people? Does it evaluate access for people and/or for goods at the statewide, regional, and local levels, consistent with functional classification? Does it measure if a transportation system provides meaningful access to travel choices for all people? 		
Travel Choices ¹	 Does the measure help evaluate the availability and viability of modal choices? Does the measure help evaluate the availability and viability of modal choices for goods? 		
Reliable and Efficient Mobility ¹	 Does the measure help evaluate whether the transportation system is used efficiently? Does the measure help evaluate whether the people and/or goods are able to travel efficiently? Does the measure help evaluate whether people and freight can conduct 		tep 2
	their regular travel in a predictable and reasonable amount of time?		Ś
Safetyi	 Does the measure help estimate potential reduction in crashes, especially fatal and serious injury crashes? Does the measure correlate to factors that are known to increase or decrease safety? 		
Other Regional Goals ¹	 Does the measure have a positive correlation to equity goals? Does the measure have a positive correlation to climate change and air quality goals? Does the measure have a positive correlation to land use goals and support 2040 land use implementation? Does the measure have a positive correlation to fiscal stewardship goals? 		
		\leq	
Policy Element Filtering	 Which measures are the top-scoring for each policy element? For each policy element, are there at least four related measures moved forward? 		Step 3
		\prec	
Additional Filtering ²	 Initial qualitative assement of key future evaluation criteria that will be applied during the case studies, including: Ease of analysis Direct correlation to mobility Lack of overlap with other measures 		Step 4

1. The screening process utilized the screening criteria established in **Supporting Document C**. The memorandum identified 10 screening criteria categories, which were then pared down to those shown in Figure 2.

2. The full initial list of future evaluation criteria is shown in **Supporting Document C**. Similar to the screen criteria, the evaluation criteria applied in the case studies may be modified from those shown as the project moves forward.





			Subtotal	Subtotal Reliable		Subtotal Other	
ID	Measure	Subtotal Access	Travel Choices	and Efficient	Subtotal Safety	Regional Goals	Screening Total
13A	Multimodal Level of Service (MMLOS)	1.00	0.50	1.00	0.50	1.00	4.00
13B	Level of Traffic Stress (LTS)	1.00	0.50	1.00	0.50	1.00	4.00
15	Pedestrian Crossing Index	1.00	0.50	0.33	0.50	1.00	3.33
24	System Completeness	1.00	0.50	0.33	0.50	1.00	3.33
2	Accessibility to Destinations	0.67	1.00	0.33	0.00	1.00	3.00
6	Bicycle/Pedestrian Network Directness/Connectivity	1.00	0.50	0.33	0.00	1.00	2.83
21	Person and Goods Throughput	0.33	0.50	1.00	0.00	1.00	2.83
27	Travel Speed	0.00	1.00	1.00	0.50	0.25	2.75
5	Accessibility to Transit	0.67	0.50	0.33	0.00	1.00	2.50
3	Accessibility to Employment	0.67	0.50	0.33	0.00	1.00	2.50
36	VMT per Capita	0.33	0.00	0.33	0.50	1.00	2.17
12	Mode Share	0.33	0.50	0.00	0.50	0.75	2.08
34	Vehicle-Bicycle Crashes	0.00	0.50	0.33	1.00	0.25	2.08
35	Vehicle-Pedestrian Crashes	0.00	0.50	0.33	1.00	0.25	2.08
10	Hours of Congestion/Duration of Congestion	0.00	0.00	1.00	0.50	0.50	2.00
4	Accessibility to Freight Terminals, Ports, and Industry	0.67	0.50	0.33	0.00	0.50	2.00
9	Freight Delay	0.00	0.50	0.67	0.00	0.75	1.92
14	Access to Opportunity Index	0.67	0.50	0.00	0.00	0.75	1.92
29	Travel Time Reliability (Planning and Buffer Travel Time Indexes)	0.00	1.00	0.67	0.00	0.25	1.92
26	Transit Ridership	0.33	0.50	0.00	0.00	1.00	1.83
33	Vehicle Miles Traveled (VMT)	0.00	0.00	0.33	0.50	1.00	1.83
1	AADT/Capacity	0.33	0.00	1.00	0.00	0.50	1.83
28	Travel Time	0.00	0.50	1.00	0.00	0.25	1.75
38	V/C for Roadway Links	0.00	0.00	1.00	0.00	0.75	1.75
7	Congestion Extent	0.00	0.00	0.67	0.50	0.50	1.67
17	Percent System Reliable	0.00	1.00	0.67	0.00	0.00	1.67
18	Person Capacity	0.00	0.50	0.67	0.00	0.50	1.67
19	Person Hours of Travel (PHT)	0.00	0.50	0.67	0.00	0.50	1.67
22	Queuing	0.00	0.00	0.67	0.50	0.50	1.67
23	Recurring Delay/Non-Recurring Delay	0.00	0.00	0.67	0.50	0.50	1.67
31	Vehicle Hours of Delay (VHD)/Peak Hour Excessive Delay	0.00	0.50	0.67	0.00	0.50	1.67
8	Fatal and Serious Injury Crashes and Crash Rates	0.00	0.00	0.33	1.00	0.25	1.58
20	Person Miles Traveled (PMT)	0.00	0.50	0.33	0.00	0.75	1.58
25	Total Crashes	0.00	0.00	0.33	1.00	0.25	1.58
16	Percent of Congested Traffic	0.00	0.00	0.67	0.00	0.50	1.17
37	Volume-to-Capacity Ratio (V/C) at Intersections	0.00	0.00	0.67	0.00	0.25	0.92

Table 1.	Performance	Measure	Screening	Ranking –	Total and	d Subtotal	Scores
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ID	Measure	Subtotal Access	Subtotal Travel Choices	Subtotal Reliable and Efficient	Subtotal Safety	Subtotal Other Regional Goals	Screening Total
30	Trip Length/Trip Length Distributions	0.00	0.00	0.33	0.00	0.50	0.83
11	Level of Service	0.00	0.00	0.67	0.00	0.00	0.67
32	Vehicle Hours Traveled (VHT)	0.00	0.00	0.33	0.00	0.25	0.58

Bolded measures are the identified most promising mobility measures for testing.

PLANNING APPLICATIONS

The graphic below summarizes the various planning applications that the mobility policy is applied to. The current mobility policy measure (volume-to-capacity ratio) is applied as a target during system planning and as a standard during plan amendments. During system planning, a variety of measures are typically used that can applied to evaluate performance of the system as a whole or in more targeted areas or locations to help identify needs and identify projects that can help address those needs.

Applications of the current mobility policy



The ideal measure or suite of measures for the updated regional mobility policy will both support a multimodal standard and can be applied at the different application levels. It is important to consider how the multimodal standard will feed up into the RTP system-wide analysis and how it could inform project design or development approval.

At the regional scale, Metro needs a measure(s) that can be quantified and compared across the whole region and can be used to set a target that is responsive to RTP projects and policies. At the plan amendment scale, agencies need a measure(s) to assess the transportation impacts of a proposed land use change based on a threshold that considers anticipated trip generation based on surrounding land use and transportation network characteristics. The measure(s) also need to support identification of mitigation if the threshold is exceeded. At the project design level, design teams use measures to quantitatively assess and compare different design alternatives. Design teams also use measures to identify development requirements and mitigation based on development-level assessment of trip generation and surrounding transportation network characteristics.





Policy Element 1: Access – All People and goods can get where they need to go

This mobility policy element would support the Portland metropolitan region in providing adequate access to jobs, services, opportunities, and connections through a robust multimodal transportation system. **Figure 3** shows the stepped process used to reduce the potential measures down to the most promising measures. Measures with overlapping policy elements are shown in all policy element figures and tables.

As noted in Figure 3, two measures were removed in Step 4 (Bicycle/Pedestrian Network Directness/Connectivity and Mode Share) based on coverage by other metrics and indirect correlation to mobility, respectively.

Figure 3: Screening Process to Identify Most Promising Measures– Access Element



Mode Share was removed because it is an outcome and goal for the region, rather than a direct measure of mobility.

Gray measures are not moved forward in the next screening process step.

Table 2 below depicts the recommended performance measures to test for the access mobility policy element. As a group, the measures cover all modes, relate to three other policy elements, and can be used for multiple planning applications from system performance to plan amendments.



Table 2. Most Promising Performance Measures – Access Element

			Mobility Policy Elements					Planning Applications		
ID	Measure	Definition	Access	Time Efficiency	Reliability	Safety	Travel Options	System Performance/ Scenario Testing/Target	Needs Identification/ Project Identification	Plan Amendments/ Standard
13A	Multimodal Level of Service (MMLOS)	MMLOS is a level of service (LOS) system that measures the quality and level of comfort of facilities per mode based on factors that impact mobility from the perspectives of pedestrians, cyclists, and transit riders, respectively.	•			0	All modes	•	•	•
13B	Level of Traffic Stress (LTS)	Level of traffic stress (LTS) classifies points and segments on routes into different categories of stress ranging from 1 (low stress) to 4 (high stress) based on factors that correlate to the comfort and safety of the bicyclist or pedestrian using that facility.	•	0		•	Bike, Pedestrian	•	•	•
15	Pedestrian Crossing Index	The distance between pedestrian crossings compared to a target maximum distance.	•	•		•	Pedestrian	•	•	•
24	System Completeness	The percent of planned facilities that are built within a specified network.	•	0		0	All modes	•	•	•
2	Accessibility to Destinations	The number of essential destinations within a certain travel time or distance, by different modes.	•	0	0		All modes	•	•	•

• direct measure; \bigcirc indirect measure



Policy Element 2: Time Efficiency – People and goods can get where they need to go in a reasonable amount of time

This mobility policy element would support the Portland region maintaining reasonable travel times on the regional transportation system (including bike, pedestrian, road, transit and freight networks). **Figure 4** shows the stepped process used to reduce the potential measures down to the most promising measures. Measures with overlapping policy elements are shown in all policy element figures and tables.

As noted in Figure 4, four measures were removed in Step 4 (Bicycle/Pedestrian Network Directness/Connectivity, Person and Goods Throughput, Freight Delay, and VMT) based on coverage by other metrics, difficulty of analysis, and indirect correlation to mobility.

Figure 4: Screening Process to Identify Most Promising Measures - Time Efficiency Element

Step 2: Measures Ranked by Highest to Lowest Screening Score 15 measures	Step 3: Top Scoring Measures from Each Element 10 measures	Step 4: Most Promising Mobility Measures for Testing 6 measures
 15: Pedestrian Crossing Index 6: Bicycle/Pedestrian Network Directness/Connectivity 21: Person and Goods Throughput 36: VMT per Capita 10: Hours of Congestion/Duration of Congestion 9: Freight Delay 33: Vehicle Miles Traveled (VMT) 28: Travel Time 38: V/C for Roadway Links 7: Congestion Extent 16: Percent of Congested Traffic 37: Volume-to-Capacity Ratio (V/C) at Intersections 30: Trip Length/Trip Length Distributions 11: Level of Service 32: Vehicle Hours Traveled (VHT) 	 15: Pedestrian Crossing Index 6: Bicycle/Pedestrian Network Directness/Connectivity 21: Person and Goods Throughput 36: VMT per Capita 10: Hours of Congestion/Duration of Congestion 9: Freight Delay 33: Vehicle Miles Traveled (VMT) 28: Travel Time 38: V/C for Roadway Links 37: Volume-to-Capacity Ratio (V/C) at Intersections 	 15: Pedestrian Crossing Index 36: VMT per Capita 10: Hours of Congestion/Duration of Congestion 28: Travel Time 38: V/C for Roadway Links 37: Volume-to-Capacity Ratio (V/C) at Intersections
• 32: Vehicle Hours Traveled (VHT) Note: Many measures overlap with other elements including the access, reliability, safety, and multimodal elements.	Note: Includes the top eight scored time efficiency measures (overlapping top scored for access, reliability, safety, and multimodal). Although a lower score, v/c at intersections is also included as the existing RMP measure.	 Notes: Bicycle/Pedestrian Network Directness/Connectivity was removed because of its similarities to System Completeness and Accessibility to Destinations. Although a useful corridor-level metric, Person and Goods Throughput was removed because is a difficult to apply. Freight Delay was removed because of its similarity to Hours/Duration of Congestion. VMT was removed because VMT per capita better reflects impacts to mobility.
Gray measures are not moved forward in the next screening proc	ess step.	

Table 3 below depicts the recommended performance measures to test for the time efficiency mobility policy element. As a group, the measures cover all modes, relate to all policy elements, and can be used for multiple planning applications from system performance to plan amendments.



Table 3. Most Promising Performance I	Measures – Time Efficiency Element
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			Mobility Policy Elements					Planning Applications		
ID	Measure	Definition	Access	Time Efficiency	Reliability	Safety	Travel Options	System Performance/ Scenario Testing/Target	Needs Identification/ Project Identification	Plan Amendments/ Standard
15	Pedestrian Crossing Index	The distance between pedestrian crossings compared to a target maximum distance.	•	•		•	Pedestrian	•	•	•
36	VMT per Capita	The number of miles traveled by motorists within a specified time period and study area, per the study area's population.	0	•		0	Vehicle, Freight, Transit	•	•	•
10	Hours of Congestion/ Duration of Congestion	The number of hours within a time period, most often within a weekday, where a facility's congestion target is exceeded.		•	•		Vehicle, Freight, Transit	•	•	•
28	Travel Time	Average or a percentile time spent traveling between key origin- destination pairs, during a specific time period.		•			All modes	•	•	•
38	V/C for Roadway Links	The ratio of traffic volume to the capacity of a roadway link during a specified analysis period.		•	0		Vehicle, Freight	•	•	•
37	Volume-to-Capacity Ratio (V/C) at Intersections	The ratio of traffic volume to the capacity of an Intersection during a specified analysis period.		•	0		Vehicle, Freight	•	•	•

 \bullet direct measure; \bigcirc indirect measure



Policy Element 3: Reliability - Travel time is reliable or predictable for all modes

This mobility policy element supports maintaining reliable travel times on the regional transportation system (including bike, pedestrian, road, transit and freight networks). When travel time is reliable, it is also more predictable for travelers planning their routes or modal choices. **Figure 5** shows the stepped process used to reduce the potential measures down to the most promising measures. Measures with overlapping policy elements are shown in all policy element figures and tables.

As noted in Figure 5, two measures were removed in Step 4 (Person and Goods Throughput and Freight Delay) based on coverage by other metrics and difficulty of analysis.

Figure 5: Screening Process to Identify Most Promising Measures - Travel Time Element



Gray measures are not moved forward in the next screening process step.

Table 4 below depicts the recommended performance measures to test for the reliability mobility policy element. As a group, the measures cover vehicle, freight, and transit modes, relate to two other policy elements, and can be used for multiple planning applications from system performance to plan amendments.



of its similarity to Hours/Duration of

Congestion.

Table 4. Most Promising Performance N	Measures – Reliability Element
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				Mobility Policy Elements					Planning Applications		
ID	Measure	Definition	Access	Time Efficiency	Reliability	Safety	Travel Options	System Performance/ Scenario Testing/Target	Needs Identification/ Project Identification	Plan Amendments/ Standard	
10	Hours of Congestion/ Duration of Congestion	The number of hours within a time period, most often within a weekday, where a facility's congestion target is exceeded.		•	•		Vehicle, Freight, Transit	•	•	•	
29	Travel Time Reliability (Planning and Buffer Travel Time Indexes)	Indicators of congestion severity that assess on-time arrival and travel time variability.		0	•		Vehicle, Freight, Transit	•	•	•	

● direct measure; ○ indirect measure



Policy Element 4: Safety - Available travel options are safe for all users

This potential mobility policy element acknowledges that people do not have mobility if they are not or do not feel safe using their available travel options. While direct safety measures such as total crashes is not recommended as part of the mobility policy, the team will utilize case studies to explore the ability to incorporate context such as high injury locations or areas with high exposure of vulnerable users. In addition, there are a number of measures that have known correlations to safety that are most promising. For these measures, **Figure 6** shows the stepped process used to reduce the potential measures down to the most promising measures. Measures with overlapping policy elements are shown in all policy element figures and tables.

As noted in Figure 6, two measures were removed in Step 4 (Mode Share and VMT) based on coverage by other metrics and indirect correlation to mobility.

Figure 6: Screening Process to Identify Most Promising Measures - Safety Element



Gray measures are not moved forward in the next screening process step.

Table 5 below depicts the recommended performance measures to test for the safety mobility policy element. As a group, the measures cover all modes, relate to three other policy elements, and can be used for multiple planning applications from system performance to plan amendments.



Table 5. Most Promising Performance Measures – Safety Element

				Mobil	ity Policy	y Elemen	its	Planning Applications		
ID	Measure	Definition	Access	Time Efficiency	Reliability	Safety	Travel Options	System Performance/ Scenario Testing/Target	Needs Identification/ Project Identification	Plan Amendments/ Standard
13B	Level of Traffic Stress (LTS)	Level of traffic stress (LTS) classifies points and segments on routes into different categories of stress ranging from 1 (low stress) to 4 (high stress) based on factors that correlate to the comfort and safety of the bicyclist or pedestrian using that facility.	•	0		•	Bike, Pedestrian	•	•	•
15	Pedestrian Crossing Index	The distance between pedestrian crossings compared to a target maximum distance.	•	•		•	Pedestrian	•	•	•
27	Travel Speed	Average or a percentile speed for a network segment or between key origin-destination pairs, during a specific time period.			0	•	Vehicle, Freight, Transit	•	•	•

• direct measure; \bigcirc indirect measure



Policy Element 5: Travel Options – People can get where they need to go by a variety of travel options or modes

This mobility policy element supports people being able to get where they need to go by a variety of travel options or modes. A main focus of the updated mobility policy will likely be to maintain acceptable mobility on the regional roadway network for all modes, including bicycle, freight, pedestrian, transit, and vehicle. While not every measure in the policy must address each mode in each context, all modes must be represented to fully measure and improve mobility for all system users. **Figure 7** shows the stepped process used to reduce the potential measures down to the most promising measures. Measures with overlapping policy elements are shown in all policy element figures and tables.

As noted in Figure 7, two measures were removed in Step 4 (Person and Goods Throughput and Mode Share) based on difficulty of analysis, coverage by other metrics, and indirect correlation to mobility.

Figure 7: Screening Process to Identify Most Promising Measures - Travel Options Element



Gray measures are not moved forward in the next screening process step.

Table 6 below depicts the recommended performance measures to test for the travel options mobility policy element. As a group, the measures cover all modes, relate to three other policy elements, and can be used for multiple planning applications from system performance to plan amendments.



of mobility.

				Mobil	ity Policy	Elemen	its	Planning Applications		
ID	Measure	Definition	Access	Time Efficiency	Reliability	Safety	Travel Options	System Performance/ Scenario Testing/Target	Needs Identification/ Project Identification	Plan Amendments/ Standard
13A	Multimodal Level of Service (MMLOS)	MMLOS is a level of service (LOS) system that measures the quality and level of comfort of facilities per mode based on factors that impact mobility from the perspectives of pedestrians, cyclists, and transit riders, respectively.	•			0	All modes	•	•	•
24	System Completeness	The percent of planned facilities that are built within a specified network.	•	0		0	All modes	•	•	●
2	Accessibility to Destinations	The number of essential destinations within a certain travel time or distance, by different modes.	•	0	0		All modes	•	•	•
28	Travel Time	Average or a percentile time spent traveling between key origin- destination pairs, during a specific time period.		•			All modes	•	•	•

Table 6. Most Promising Performance Measures – Travel Options Element

• direct measure; \bigcirc indirect measure



MEASURES EVALUATION PROCESS SUMMARY

As outlined in the preceding sections, a four-step process was completed to select evaluate and identify the most promising measures. **Table 7** below shows the initial list of 38 potential performance measures that were identified in **Supporting Document B**.

Table 7. Potential Performance Measures Before Screening

ID	Measure	Access	Time Efficiency	Reliability	Safety	Travel Options	
1	AADT/Capacity	0	0			Vehicle, Freight	
2	Accessibility to Destinations		0	0		All modes	
3	Accessibility to Employment		0			All modes	
	Accessibility to Freight Terminals,		0			Fusi-Lt	
4	Ports, and Industry					Freight	
5	Accessibility to Transit		0			Bike, Pedestrian	
6	Bicycle/Pedestrian Network					Rika Padastrian	
0	Directness/Connectivity		•			DINE, FEUESCIIAII	
7	Congestion Extent		•			Vehicle, Freight,	
					Transit		
8	ratai and Serious Injury Crashes		0		\bullet	All modes	
	and Crash Rates					Ernicht	
3	Hours of Congestion /Duration of					Vehicle Freight	
10	Congestion		\bullet			venicle, rielgiit, Transit	
11	Level of Service		•			Vehicle. Freight	
12	Mode Share	•	-		•	All modes	
	Multimodal Level of Service				~		
13A	(MMLOS)				0	All modes	
13B	Level of Traffic Stress (LTS)		0			Bike, Pedestrian	
14	Access to Opportunity Index					All modes	
15	Pedestrian Crossing Index					Pedestrian	
16	Percent of Congested Traffic					Vehicle, Freight,	
			-			Transit	
17	Percent System Reliable					Vehicle, Freight,	
				•		Transit	
18	Person Capacity					All modes	
19	Person Hours of Travel (PHT)					All modes	
20	Person Willes Traveled (PMT)					All modes	
21	Person and Goods Throughput					All modes	
	Queuing Doloy (Non Documing					Vehicle, Freight	
23	Recurring Deidy/Non-Recurring Delay					venicie, Freight, Transit	
74	System Completeness		0		0		
25	Total Crashes		0			All modes	
26	Transit Ridershin				-	Transit Transit Mode	
					-	Vehicle. Freight	
27	Travel Speed			O		Transit	
28	Travel Time		•			All modes	





ID	Measure	Access	Time Efficiency	Reliability	Safety	Travel Options
29	Travel Time Reliability (Planning and Buffer Travel Time Indexes)			•		Vehicle, Freight, Transit
30	Trip Length/Trip Length Distributions		•			All modes
31	Vehicle Hours of Delay (VHD)/Peak Hour Excessive Delay			•		Vehicle, Freight, Transit
32	Vehicle Hours Traveled (VHT)		•			Vehicle, Freight, Transit
33	Vehicle Miles Traveled (VMT)		•		•	Vehicle, Freight, Transit
34	Vehicle-Bicycle Crashes		0			Vehicle, Bicycle
35	Vehicle-Pedestrian Crashes		0			Vehicle, Pedestrian
36	VMT per Capita	0	•		0	Vehicle, Freight, Transit
37	Volume-to-Capacity Ratio (V/C) at Intersections		•	0		Vehicle, Freight
38	V/C for Roadway Links			0		Vehicle, Freight

ullet direct measure; \bigcirc indirect measure

Figure 8 below shows the progress of Steps 2 through 4 for the full list of measures. In Step 2 of the screening process, an initial screening of the potential measures was conducted, resulting in a score for each measure and then a ranked list.

Step 3 identified the top scored measures per policy element (i.e. not all of the top scored measures for the full list are moved forward, but the top scored within each policy element). This reduced the list of potential measures from 38 to 17.

An additional evaluation of the measures was conducted in Step 4 based on ease of analysis, suitability to multiple applications, direct correlation to mobility, and overlap with other policy elements. This evaluation resulted in 12 measures identified as most promising to test with case studies. Two of the five measures not advanced were similar, at least in part, by other measures being moved forward (Bicycle/Pedestrian Network Directness/ Connectivity and Freight Delay). Two of the measures not advanced did not have as strong of a direct correlation to mobility as other measures (Mode Share and VMT). One of the five measures not advanced lacked ease of analysis (Person and Goods Throughput).

Many of the measures not identified as the most promising are still good measures for system planning but were not found to be the best correlated to the draft mobility policy and policy elements (access, time efficiency, reliability, safety, and multimodal). The mobility policy is only one of many policies that are considered in system planning.





Figure 8: Screening Process for All Policy Elements

Step 2: Measures Ranked by Highest to Lowest Screening Score 38 measures

- 13A: Multimodal Level of Service (MMLOS)
- 13B: Level of Traffic Stress (LTS)
- **15: Pedestrian Crossing Index** •
- 24: System Completeness
- 6: Bicycle/Pedestrian Network ٠ Directness/Connectivity
- 27: Travel Speed
- 2: Accessibility to Destinations ٠
- 21: Person and Goods Throughput ٠
- 3: Accessibility to Employment
- 5: Accessibility to Transit
- 12: Mode Share •
- 10: Hours of Congestion/Duration of ٠ Congestion
- 9: Freight Delay ٠
- 14: Access to Opportunity Index
- 29: Travel Time Reliability (Planning and ٠ Buffer Travel Time Indexes)
- 26: Transit Ridership
- 33: Vehicle Miles Traveled (VMT) ٠
- 36: VMT per Capita •
- 28: Travel Time ٠
- 34: Vehicle-Bicycle Crashes
- 35: Vehicle-Pedestrian Crashes
- 38: V/C for Roadway Links •
- 4: Accessibility to Freight Terminals, Ports, and Industry
- 7: Congestion Extent
- 17: Percent System Reliable
- 18: Person Capacity
- 19: Person Hours of Travel (PHT)
- 22: Queuing •
- 23: Recurring Delay/Non-Recurring Delay
- 31: Vehicle Hours of Delay (VHD)/Peak Hour Excessive Delay
- 20: Person Miles Traveled (PMT)
- 8: Fatal and Serious Injury Crashes and Crash Rates
- 25: Total Crashes
- 16: Percent of Congested Traffic
- 1: AADT/Capacity •
- 30: Trip Length/Trip Length Distributions
- 11: Level of Service
- 37: Volume-to-Capacity Ratio (V/C) at • Intersections
- 32: Vehicle Hours Traveled (VHT)

Step 3: Top Scoring Measures from Each Element **17** measures

- 13A: Multimodal Level of Service (MMLOS)
- 13B: Level of Traffic Stress (LTS)
- 15: Pedestrian Crossing Index
- 24: System Completeness
- 6: Bicycle/Pedestrian Network Directness/ Connectivity¹
- 27: Travel Speed ٠
- 2: Accessibility to Destinations
- 21: Person and Goods Throughput²
- 12: Mode Share³
- 10: Hours of Congestion/ **Duration of Congestion**
- 9: Freight Delay⁴
- 29: Travel Time Reliability (Planning and Buffer Travel Time Indexes)
- 33: Vehicle Miles Traveled $(VMT)^5$
- 36: VMT per Capita
- 28: Travel Time
- 38: V/C for Roadway Links
- 37: Volume-to-Capacity Ratio (V/C) at Intersections

Step 4: Most Promising Mobility Measures for Testing 12 measures

- 13A: Multimodal Level of • Service (MMLOS)
- 13B: Level of Traffic Stress (LTS)
- **15: Pedestrian Crossing Index** •
- 24: System Completeness
- 27: Travel Speed
- 2: Accessibility to Destinations •
- 10: Hours of • Congestion/Duration of Congestion
- 29: Travel Time Reliability ٠ (Planning and Buffer Travel Time Indexes)
- 36: VMT per Capita ٠
- 28: Travel Time •
- 38: V/C for Roadway Links •
- 37: Volume-to-Capacity Ratio (V/C) at Intersections

Note: All measures from **Supporting Document B**, ranked by screening criteria ranking.

Note: Top scoring measures for each mobility policy element based on screening criteria ranking in previous step.

Note: Further narrowing of the measures list based on: ease of analysis, suitability to multiple applications, direct correlation to mobility, and overlap with other elements.

Gray measures are not moved forward in the next screening process step.

¹ Removed because of its similarities to System Completeness and Accessibility to Destinations.

² Although a useful corridor-level metric, removed because is a difficult to apply.

³ Removed because it is an outcome and goal for the region, rather than a direct measure of mobility.

⁴ Removed because of its similarity to Hours/Duration of Congestion.

⁵ Removed because VMT per capita better reflects impacts to mobility.





The most promising performance measures to consider for testing are shown in **Table 8** below. As a group, the measures cover all modes. Seven of the 12 measures relate to more than one policy elements. Seven of the measures can be used for both system planning and plan amendments, the focus of this regional mobility policy update.

				Mobil	ity Policy	licy Elements Planning Applica				tions
ID	Measure	Definition	Access	Time Efficiency	Reliability	Safety	Travel Options	System Performance/ Scenario Testing/Target	Needs Identification/ Project Identification	Plan Amendments/ Standard
		MMLOS is a level of service (LOS) system that measures the quality								
13A	Multimodal Level of Service (MMLOS)	and level of comfort of facilities per mode based on factors that impact mobility from the perspectives of pedestrians, cyclists, and transit riders, respectively.	•			0	All modes	•	•	•
13B	Level of Traffic Stress (LTS)	Level of traffic stress (LTS) classifies points and segments on routes into different categories of stress ranging from 1 (low stress) to 4 (high stress) based on factors that correlate to the comfort and safety of the bicyclist or pedestrian using that facility.	•	0		•	Bike, Pedestrian	•	٠	٠
15	Pedestrian Crossing Index	The distance between pedestrian crossings compared to a target maximum distance.	•	•		•	Pedestrian	•	٠	•
24	System	The percent of planned facilities that	•	0		0	All modes	•	•	•
27	Travel Speed	Average or a percentile speed for a network segment or between key origin-destination pairs, during a specific time period			0	•	Vehicle, Freight, Transit	•	•	•
2	Accessibility to Destinations	The number of essential destinations within a certain travel time or distance, by different modes.	•	0	0		All modes	•	•	•
10	Hours of Congestion/ Duration of Congestion	The number of hours within a time period, most often within a weekday, where a facility's congestion target is exceeded.		•	•		Vehicle, Freight, Transit	•	●	•
29	Travel Time Reliability (Planning and Buffer Travel Time Indexes)	Indicators of congestion severity that assess on-time arrival and travel time variability.		0	•		Vehicle, Freight, Transit	•	•	•
36	VMT per Capita	The number of miles traveled by motorists within a specified time period and study area, per the study area's population.	0	•		0	Vehicle, Freight, Transit	•	•	•
28	Travel Time	Average or a percentile time spent traveling between key origin- destination pairs, during a specific time period.		•			All modes	•	•	•
38	V/C for Roadway Links	The ratio of traffic volume to the capacity of a roadway link during a specified analysis period.		•	0		Vehicle, Freight	•	•	•
37	Volume-to-Capacity Ratio (V/C) at Intersections	The ratio of traffic volume to the capacity of an Intersection during a specified analysis period.		•	0		Vehicle, Freight	•	•	•

Intersections ● direct measure; ○ indirect measure

NEXT STEPS

Stakeholders will review and provide feedback on the identified most promising mobility measures before the project team moves forward with the case studies. Feedback will be used to further reduce the list of measures that moves forward. Through the case studies, the team will evaluate which measures are most feasible and useful in measuring mobility. Following the case studies, the team will craft draft policy language and guidance related to use and applicability of the recommended performance measures.



ScreeningMatrix Attachment A 4/14/21 Memo: Most Promising Mobility Measures for Testing - Discussion Draft

				Access		Travel Choices				
			Dess the measure halm	Doos it avaluate assess						
			estimate potential	for people and/or for	Does it measure if a					
			increase in access to opportunities, social	goods at the statewide, regional, and local levels,	transportation system provides meaningful		Does the measure help evaluate the availability	Does the measure help evaluate the availability		Does the measure help evaluate whether the
ID		Measure	connections, and goods for all people?	consistent with functional classification?	access to travel choices for all people?	Access Subtotal	and viability of modal choices?	and viability of modal choices for goods?	Travel Choices Subtotal	transportation system is used efficiently?
	1	AADT/Capacity	1	0	0	0.33	0	0	0.00	1
	2	Accessibility to Destinations	1	0	1	0.67	1	1	1.00	0
	3	Accessibility to Employment	1	0	1	0.67	1	0	0.50	0
	4	Accessibility to Freight Terminals, Ports, and Industry	1	1	0	0.67	0	1	0.50	0
	5	Accessibility to Transit	1	0	1	0.67	1	0	0.50	0
	6	Bicycle/Pedestrian Network Directness/Connectivity	1	1	1	1.00	1	0	0.50	0
	7	Congestion Extent	0	0	0	0.00	0	0	0.00	0
	8	Fatal and Serious Injury Crashes and Crash Rates	0	0	0	0.00	0	0	0.00	0
	9	Freight Delay	0	0	0	0.00	0	1	0.50	0
	10	Hours of Congestion/Duration of Congestion	0	0	0	0.00	0	0	0.00	1
	11	Level of Service	0	0	0	0.00	0	0	0.00	0
	12	Mode Share	0	0	1	0.33	1	0	0.50	0
	13	Level of Traffic Stress (LTS)	1	1	1	1.00	1	0	0.50	1
	13	Multimodal Level of Service (MMLOS)	1	1	1	1.00	1	0	0.50	1
	14	Access to Opportunity Index	1	0	1	0.67	1	0	0.50	0
	15	Pedestrian Crossing Index	1	1	1	1.00	1	0	0.50	0
	16	Percent of Congested Traffic	0	0	0	0.00	0	0	0.00	0
	17	Percent System Reliable	0	0	0	0.00	1	1	1.00	0
	18	Person Capacity	0	0	0	0.00	1	0	0.50	0
	19	Person Hours of Travel (PHT)	0	0	0	0.00	1	0	0.50	0
	20	Person Miles Traveled (PMT)	0	0	0	0.00	1	0	0.50	1
	21	Person and Goods Throughput	0	0	1	0.33	1	0	0.50	1
	22	Queuing	0	0	0	0.00	0	0	0.00	0
	23	Recurring Delay/Non- Recurring Delay	0	0	0	0.00	0	0	0.00	0
	24	System Completeness	1	1	1	1.00	1	0	0.50	0
	25	Total Crashes	0	0	0	0.00	0	0	0.00	0
	26	Transit Ridership	0	0	1	0.33	1	0	0.50	0
	27	Travel Speed	0	0	0	0.00	1	1	1.00	1
	28	Travel Time Reliability	0	0	0	0.00	1	0	0.50	1
	29	(Planning and Buffer Travel Time Indexes)	0	0	0	0.00	1	1	1.00	0
	30	Trip Length/Trip Length Distributions	0	0	0	0.00	0	0	0.00	1
	31	Venicle Hours of Delay (VHD)/Peak Hour Excessive Delay	0	0	0	0.00	0	1	0.50	0
	32	Vehicle Hours Traveled (VHT)	0	0	0	0.00	0	0	0.00	1
	33	Vehicle Miles Traveled (VMT)	0	0	0	0.00	0	0	0.00	1
	34	Vehicle-Bicycle Crashes	0	0	0	0.00	1	0	0.50	0
	35	Vehicle-Pedestrian Crashes	0	0	0	0.00	1	0	0.50	0
	36	VMT per Capita	1	0	0	0.33	0	0	0.00	1
	37	Volume-to-Capacity Ratio (V/C) at Intersections	0	0	0	0.00	0	0	0.00	0
	38	V/C for Roadway Links	0	0	0	0	0	0	0	1

		Reliable and Efficie	nt Mobility			Safety			0
		Does the measure help evaluate whether the people and/or goods are	Does the measure help evaluate whether people and freight can conduct their regular travel in a predictable and	Reliable and	Does the measure help estimate potential reduction in crashes,	Does the measure correlate to factors that		Does the measure have a	Does the measure have a positive correlation to
ID	Measure	able to travel efficiently?	reasonable amount of time?	Efficient Subtotal	especially fatal and serious injury crashes?	are known to increase or decrease safety?	Safety Subtotal	positive correlation to equity goals?	climate change and air quality goals?
1	AADT/Capacity	1	1	1.00	0	0	0.00	0	1
2	Accessibility to Destinations	1	0	0.33	0	0	0.00	1	1
3	Accessibility to Employment	1	0	0.33	0	0	0.00	1	1
4	Accessibility to Freight Terminals, Ports, and Industry	1	0	0.33	0	0	0.00	0	0
5	Accessibility to Transit	1	0	0.33	0	0	0.00	1	1
6	Bicycle/Pedestrian Network Directness/Connectivity	1	0	0.33	0	0	0.00	1	1
7	Congestion Extent	1	1	0.67	0	1	0.50	0	1
8	Fatal and Serious Injury Crashes and Crash Rates	0	1	0.33	1	1	1.00	0	0
9	Freight Delay	1	1	0.67	0	0	0.00	0	1
10	Hours of Congestion/Duration of Congestion	1	1	1.00	0	1	0.50	0	1
11	Level of Service	1	1	0.67	0	0	0.00	0	0
12	Mode Share	0	0	0.00	0	1	0.50	1	1
13	Level of Traffic Stress (LTS)	1	1	1.00	0	1	0.50	1	1
13	Multimodal Level of Service (MMLOS)	1	1	1.00	0	1	0.50	1	1
14	Access to Opportunity Index	0	0	0.00	0	0	0.00	1	0
15	Pedestrian Crossing Index	1	0	0.33	0	1	0.50	1	1
16	Percent of Congested Traffic	1	1	0.67	0	0	0.00	0	1
17	Percent System Reliable	1	1	0.67	0	0	0.00	0	0
18	Person Capacity	1	1	0.67	0	0	0.00	0	0
19	Person Hours of Travel (PHT)	1	1	0.67	0	0	0.00	0	1
20	(PMT)	0	0	0.33	0	0	0.00	1	1
21	Person and Goods Throughput	1	1	1.00	0	0	0.00	1	1
22	Queuing	1	1	0.67	0	1	0.50	0	1
23	Recurring Delay/Non- Recurring Delay	1	1	0.67	0	1	0.50	0	1
24	System Completeness	1	0	0.33	0	1	0.50	1	1
25	Total Crashes	0	1	0.33	1	1	1.00	0	0
26	Transit Ridership	0	0	0.00	0	0	0.00	1	1
27	Travel Speed	1	1	1.00	0	1	0.50	0	0
28	Travel Time	1	1	1.00	0	0	0.00	0	1
29	(Planning and Buffer Travel Time Indexes)	1	1	0.67	0	0	0.00	0	0
30	Trip Length/Trip Length Distributions Vehicle Hours of Delay	0	0	0.33	0	0	0.00	0	1
31	(VHD)/Peak Hour Excessive Delay	1	1	0.67	0	0	0.00	0	1
32	venicle Hours Traveled (VHT)	0	0	0.33	0	0	0.00	0	1
33	Vehicle Miles Traveled (VMT)	0	0	0.33	0	1	0.50	1	1
34	Vehicle-Bicycle Crashes	0	1	0.33	1	1	1.00	0	0
35	Vehicle-Pedestrian Crashes	0	1	0.33	1	1	1.00	0	0
36	VMT per Capita	0	0	0.33	0	1	0.50	1	1
37	Volume-to-Capacity Ratio (V/C) at Intersections	1	1	0.67	0	0	0.00	0	1
38	V/C for Roadway Links	1	1	1	0	0	0	0	1

		ther Regional Goals					Scoring Subtotals			
		Doos the measure have a								
		positive correlation to	Door the measure have a				Subtotal			
ID	Measure	support 2040 land use	positive correlation to	Other Regional Goals Subtotal	Subtotal Access	Subtotal Travel Choices	Reliable and	Subtotal Safety	Subtotal Other	Screening Total
1	AADT/Capacity	1	0	0.50	0.33	0.00	1.00	0.00	0.50	1.83
2	Accessibility to Destinations	1	1	1.00	0.67	1.00	0.33	0.00	1.00	3.00
3	Accessibility to Employment	1	1	1.00	0.67	0.50	0.33	0.00	1.00	2.50
4	Accessibility to Freight Terminals, Ports, and	1	1	0.50	0.67	0.50	0.33	0.00	0.50	2.00
5	Industry Accessibility to Transit	1	1	1.00	0.67	0.50	0.33	0.00	1.00	2.50
6	Bicycle/Pedestrian Network	1	1	1.00	1.00	0.50	0.33	0.00	1.00	2.83
7	Congestion Extent	0	1	0.50	0.00	0.00	0.67	0.50	0.50	1.67
8	Fatal and Serious Injury	0	1	0.25	0.00	0.00	0.33	1.00	0.25	1.58
9	Freight Delay	1	1	0.75	0.00	0.50	0.67	0.00	0.75	1.92
10	Hours of	0	1	0.50	0.00	0.00	1.00	0.00	0.50	2.00
10		0	1	0.50	0.00	0.00	1.00	0.50	0.50	2.00
11	Level of Service	U	U	0.00	0.00	0.00	0.67	0.00	0.00	0.67
12	Mode Share	0	1	0.75	0.33	0.50	0.00	0.50	0.75	2.08
13	Level of Traffic Stress (LTS)	1	1	1.00	1.00	0.50	1.00	0.50	1.00	4.00
13	Multimodal Level of Service (MMLOS)	1	1	1.00	1.00	0.50	1.00	0.50	1.00	4.00
14	Access to Opportunity Index	1	1	0.75	0.67	0.50	0.00	0.00	0.75	1.92
15	Pedestrian Crossing Index	1	1	1.00	1.00	0.50	0.33	0.50	1.00	3.33
16	Percent of Congested Traffic	0	1	0.50	0.00	0.00	0.67	0.00	0.50	1.17
17	Percent System Reliable	0	0	0.00	0.00	1.00	0.67	0.00	0.00	1.67
18	Person Capacity	1	1	0.50	0.00	0.50	0.67	0.00	0.50	1.67
19	Person Hours of Travel (PHT)	0	1	0.50	0.00	0.50	0.67	0.00	0.50	1.67
20	Person Miles Traveled (PMT)	0	1	0.75	0.00	0.50	0.33	0.00	0.75	1.58
21	Person and Goods Throughput	1	1	1.00	0.33	0.50	1.00	0.00	1.00	2.83
22	Queuing	0	1	0.50	0.00	0.00	0.67	0.50	0.50	1.67
23	Recurring Delay/Non- Recurring Delay	0	1	0.50	0.00	0.00	0.67	0.50	0.50	1.67
24	System Completeness	1	1	1.00	1.00	0.50	0.33	0.50	1.00	3.33
25	Total Crashes	0	1	0.25	0.00	0.00	0.33	1.00	0.25	1.58
26	Transit Ridership	1	1	1.00	0.33	0.50	0.00	0.00	1.00	1.83
27	Travel Speed	1	0	0.25	0.00	1.00	1.00	0.50	0.25	2.75
28	Travel Time	0	0	0.25	0.00	0.50	1.00	0.00	0.25	1.75
29	Travel Time Reliability (Planning and Buffer Travel Time Indexes)	0	1	0.25	0.00	1.00	0.67	0.00	0.25	1.92
30	Trip Length/Trip Length Distributions	1	0	0.50	0.00	0.00	0.33	0.00	0.50	0.83
31	Vehicle Hours of Delay (VHD)/Peak Hour Excessive Delay	0	1	0.50	0.00	0.50	0.67	0.00	0.50	1.67
32	, Vehicle Hours Traveled (VHT)	0	0	0.25	0.00	0.00	0.33	0.00	0.25	0.58
33	Vehicle Miles Traveled (VMT)	1	1	1.00	0.00	0.00	0.33	0.50	1.00	1.83
34	Vehicle-Bicycle Crashes	0	1	0.25	0.00	0.50	0.33	1.00	0.25	2.08
35	Vehicle-Pedestrian Crashes	0	1	0.25	0.00	0.50	0.33	1.00	0.25	2.08
36	VMT per Capita	1	1	1.00	0.33	0.00	0.33	0.50	1.00	2.17
37	Volume-to-Capacity Ratio (V/C) at Intersections	0	0	0.25	0.00	0.00	0.67	0.00	0.25	0.92
38	V/C for Roadway Links	1	1	0.75	0.00	0.00	1.00	0.00	0.75	1.75