

Assessment of Parameter/Topic: Safety Analyses

Analyst:	Date:	Project:
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	Quantitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Qualitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Comments	Jurisdiction Staff Assessment of Comments Column
Performance Metric(s)	• Number of crashes (per year)	• <i>(Yes/No)</i>	• Compliance with Statewide Strategic Highway Safety Plan	• <i>(Yes/No)</i>	• Although speed is often included in safety evaluations, it is treated as a separate parameter/topic.	• <i>(Yes/No/Not applicable/Text)</i>
	• Crash severity	• <i>(Yes/No)</i>	• Compliance with BMC's Strategic Highway Safety Plan	• <i>(Yes/No)</i>		
	• Crash rate (per 100 million vehicle miles (MVM), or per entering vehicle)	• <i>(Yes/No)</i>	• Compliance with Jurisdiction's Strategic Highway Safety Plan	• <i>(Yes/No)</i>	• For intersections, use rates per entering vehicle?	• <i>(Yes/No/Not applicable/Text)</i>
	• Number of fatalities	• <i>(Yes/No)</i>	• Extent to which the project implements the member jurisdiction's Complete Streets policies	• <i>(Yes/No)</i>	• Other performance metrics could be considered	• <i>(Yes/No/Not applicable/Text)</i>
	• Number of serious injuries	• <i>(Yes/No)</i>	• Extent to which the project implements the member jurisdiction's Vision Zero Statement	• <i>(Yes/No)</i>		
	• Fatality rate per 100 million vehicle miles traveled (VMT)	• <i>(Yes/No)</i>	• Presence of project within known High Crash Location	• <i>(Yes/No)</i>		
	• Serious injury rate per 100 million VMT	• <i>(Yes/No)</i>	• Compliance with design standards	• <i>(Yes/No)</i>		
	• Number of non-motorized fatalities and serious injuries	• <i>(Yes/No)</i>				
• Number of crashes involving pedestrians and/or bicyclists	• <i>(Yes/No)</i>					
Means of Assessment	• Before/after studies	• <i>(Yes/No)</i>	• Written Statement of Compatibility with performance metric(s) described above	• <i>(Yes/No)</i>	• Document how the proposed improvements within the study area will address identified safety issues?	• <i>(Yes/No/Not applicable/Text)</i>
	• Highway Safety Manual procedures	• <i>(Yes/No)</i>			• Other means of assessment could be considered	• <i>(Yes/No/Not applicable/Text)</i>
	• Road safety audits	• <i>(Yes/No)</i>				
Threshold of Acceptability	• Decrease, or at least no increase, in performance metrics	• <i>(Yes/No)</i>	• Full compatibility	• <i>(Yes/No)</i>	• Other thresholds could be considered	• <i>(Yes/No/Not applicable/Text)</i>
Data Availability / Expense	• Historic crash data available from MDOT SHA for counties; available from Baltimore City DOT for City	• <i>(Yes/No)</i>	• Not applicable	• <i>(Not applicable)</i>	• Time required for obtaining data may be a concern	• <i>(Yes/No/Not applicable/Text)</i>
					• Level of detail of data may be a concern	• <i>(Yes/No/Not applicable/Text)</i>
					• Legality of providing data to developers may be a concern	• <i>(Yes/No/Not applicable/Text)</i>

Assessment of Parameter/Topic: Safety Analyses (Continued)

	Quantitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Qualitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Comments	Jurisdiction Staff Assessment of Comments Column
Ease / Standardization of Analysis	• Require use of Interactive Highway Safety Design Model (IHSDM)?	• (Yes/No)	• Straightforward	• (Agree/Disagree with Assessment)	• Other types of analysis could be considered	• (Yes/No/Not applicable/Text)
	• Require use of HCS Module?	• (Yes/No)				
Availability of Reasonable Mitigation Strategies	• Geometric improvements	• (Yes/No)	• Geometric improvements	• (Yes/No)	• Physical/operational improvements may not always be possible, or cost effective	• (Yes/No/Not applicable/Text)
	• Operational improvements (including signing/pavement markings and lighting)	• (Yes/No)	• Operational improvements (including signing/pavement markings and lighting)	• (Yes/No)	• Some mitigation strategies (such as changes to signing/pavement markings and automated enforcement), may be suggested in the TIS, but can only be implemented by the jurisdiction	• (Yes/No/Not applicable/Text)
Alternatives if No Reasonable Mitigation Strategies	• Impact fees	• (Yes/No)	• Impact fees	• (Yes/No)	• Can improvements for other parameters/topics be used for an offset?	• (Yes/No/Not applicable/Text)
Ease of Review by Jurisdiction (Easy, Moderate, Difficult)	• Moderate	• (Agree/Disagree with Assessment)	• Easy	• (Agree/Disagree with Assessment)	• Quantitative analyses could be challenging to review, particularly at outset of program	• (Yes/No/Not applicable/Text)
Likely Challenges	• Accurate assessment of performance metrics	• (Insert any other specific challenges)	• Difficult to assess meaningfully	• (Insert any other specific challenges)	• Past experiences by member agencies could be instructive	• (Yes/No/Not applicable/Text)
					• Including safety as part of the TIS process would potentially require jurisdictions to change their Adequate Public Facilities Ordinance	• (Yes/No/Not applicable/Text)

From a technical analysis perspective, can this parameter generally be accommodated within existing TIS frameworks?

Yes: **X** No:

Jurisdiction Staff Recommendation for Including This Parameter/Topic:

Yes:	<input checked="" type="checkbox"/>
No:	<input type="checkbox"/>

Jurisdiction Staff Discussion of Recommendation:

Jurisdiction Staff Recommendation for Measurement Type:

Qualitative Measurement:	<input type="checkbox"/>
Quantitative Measurement:	<input type="checkbox"/>
Both:	<input type="checkbox"/>
Not Applicable:	<input type="checkbox"/>

Assessment of Parameter/Topic: Controlling Speeds

Analyst:	Date:	Project:
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	Quantitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Qualitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Comments	Jurisdiction Staff Assessment of Comments Column
Performance Metric(s)	• Compliance with posted speed limit	• <i>(Yes/No)</i>	• Extent to which the project implements the member jurisdiction’s Complete Streets policies	• <i>(Yes/No)</i>	• For “difference in mean speed”, the greater the differential is, the greater the potential is for conflict	• <i>(Yes/No/Not applicable/Text)</i>
	• Design speed of new roadways	• <i>(Yes/No)</i>				
	• Difference in mean speed among modes	• <i>(Yes/No)</i>				
Means of Assessment	• Before/after studies	• <i>(Yes/No)</i>	• Written Statement of Compatibility with performance metric described above	• <i>(Yes/No)</i>	• To simplify data collection, a mean speed for pedestrians and for bicycles could be assumed	• <i>(Yes/No/Not applicable/Text)</i>
	• Mean speed of roadway vehicles	• <i>(Yes/No)</i>				
	• Mean speed of all modes	• <i>(Yes/No)</i>				
	• Percentage of vehicles exceeding posted speed limit	• <i>(Yes/No)</i>				
Threshold of Acceptability	• Increase in compliance with posted speed limit; decrease in other performance metrics	• <i>(Yes/No)</i>	• Full compatibility with the performance metric described above	• <i>(Yes/No)</i>		• <i>(Not applicable/Text)</i>
	• Compliance with design standards for new roadways	• <i>(Yes/No)</i>				
Data Availability / Expense	• Standard traffic data collection	• <i>(Yes/No)</i>	• Not applicable	• <i>(Not applicable)</i>		• <i>(Not applicable/Text)</i>
Ease / Standardization of Analysis	• Straightforward	• <i>(Agree/Disagree with Assessment)</i>	• Straightforward	• <i>(Agree/Disagree with Assessment)</i>		• <i>(Not applicable/Text)</i>
Availability of Reasonable Mitigation Strategies	• Geometric improvements	• <i>(Yes/No)</i>	• Geometric improvements	• <i>(Yes/No)</i>	• Physical/operational improvements may not always be possible, or cost effective	• <i>(Yes/No/Not applicable/Text)</i>
	• Operational improvements (including signing/pavement markings and lighting)	• <i>(Yes/No)</i>	• Operational improvements (including signing/pavement markings and lighting)	• <i>(Yes/No)</i>	• Some mitigation strategies may lead to modal conflicts (i.e., a positive effect on one mode of travel may adversely impact another)	• <i>(Yes/No/Not applicable/Text)</i>
					• Some mitigation strategies (such as changes to signing/pavements markings and automated enforcement), may be suggested in the TIS, but can only be implemented by the jurisdiction	• <i>(Yes/No/Not applicable/Text)</i>
Alternatives if No Reasonable Mitigation Strategies	• Impact fees	• <i>(Yes/No)</i>	• Impact fees	• <i>(Yes/No)</i>	• Can improvements for other parameters/topics be used for an offset?	• <i>(Yes/No/Not applicable/Text)</i>

Assessment of Parameter/Topic: Controlling Speeds (Continued)

	Quantitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Qualitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Comments	Jurisdiction Staff Assessment of Comments Column
Ease of Review by Jurisdiction (Easy, Moderate, Difficult)	<ul style="list-style-type: none"> Easy 	<ul style="list-style-type: none"> <i>(Agree/Disagree with Assessment)</i> 	<ul style="list-style-type: none"> Easy 	<ul style="list-style-type: none"> <i>(Agree/Disagree with Assessment)</i> 		<ul style="list-style-type: none"> <i>(Not applicable/Text)</i>
Likely Challenges	<ul style="list-style-type: none"> Other than compliance with design standards, this performance metric requires before/after studies 	<ul style="list-style-type: none"> <i>(Insert any other specific challenges)</i> 		<ul style="list-style-type: none"> <i>(Insert any other specific challenges)</i> 		<ul style="list-style-type: none"> <i>(Not applicable/Text)</i>
	<ul style="list-style-type: none"> For before/after studies, would need to identify conditions and durations for data collection (peak/off-peak, 24-hour, free-flow/congested, etc.) 	<ul style="list-style-type: none"> <i>(Insert any other specific challenges)</i> 				

From a technical analysis perspective, can this parameter generally be accommodated within existing TIS frameworks?

Yes: No:

Jurisdiction Staff Recommendation for Including This Parameter/Topic:

Yes:	<input type="checkbox"/>
No:	<input type="checkbox"/>

Jurisdiction Staff Discussion of Recommendation:

Jurisdiction Staff Recommendation for Measurement Type:

Qualitative Measurement:	<input type="checkbox"/>
Quantitative Measurement:	<input type="checkbox"/>
Both:	<input type="checkbox"/>
Not Applicable:	<input type="checkbox"/>

Assessment of Parameter/Topic: De-Prioritizing Vehicular Throughput

Analyst:	Date:	Project:
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	Quantitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Qualitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Comments	Jurisdiction Staff Assessment of Comments Column
Performance Metric(s)	• Level of Service (LOS)	• (Yes/No)	• Extent to which the project implements the member jurisdiction’s Complete Streets policies	• (Yes/No)	• Considering LOS may be counter-intuitive; worsening LOS would decrease throughput, but increase congestion	• (Yes/No/Not applicable/Text)
	• Traffic volumes	• (Yes/No)			• May not be applicable in more rural areas; would require evaluation on a case-by-case basis	• (Yes/No/Not applicable/Text)
	• Theoretical roadway capacity	• (Yes/No)			• Measures of traffic performance other than LOS, such as delay and queuing, could be considered	• (Yes/No/Not applicable/Text)
	• Design speed of new roadways	• (Yes/No)				
Means of Assessment	• Before/after studies	• (Yes/No)	• Written Statement of Compatibility with performance metric described above	• (Yes/No)		• (Not applicable/Text)
	• Highway Capacity Manual (HCM)	• (Yes/No)				
	• Traffic volume forecasts	• (Yes/No)				
	• Roadway capacity reduction	• (Yes/No)				
Threshold of Acceptability	• Decrease in performance metrics	• (Yes/No)	• Full compatibility	• (Yes/No)	• Other thresholds could be considered	• (Yes/No/Not applicable/Text)
	• Compliance with design standards for new roadways	• (Yes/No)			• Variable thresholds could be considered based on area type (urban/suburban/rural)	• (Yes/No/Not applicable/Text)
Data Availability / Expense	• Standard traffic data collection	• (Yes/No)	• Not applicable	• (Not applicable)		• (Not applicable/Text)
	• Regional travel demand model	• (Yes/No)				
Ease / Standardization of Analysis	• Straightforward	• (Agree/Disagree with Assessment)	• Straightforward	• (Agree/Disagree with Assessment)		• (Not applicable/Text)
Availability of Reasonable Mitigation Strategies	• Geometric improvements	• (Yes/No)	• Geometric improvements	• (Yes/No)	• TDM features may discourage vehicle trips	• (Yes/No/Not applicable/Text)
	• Operational improvements (including signing/pavement markings and lighting)	• (Yes/No)	• Operational improvements (including signing/pavement markings and lighting)	• (Yes/No)	• Physical/operational improvements may not always be possible, or cost effective	• (Yes/No/Not applicable/Text)
			• Transportation Management Plan (TMP) along with Transportation Demand Management (TDM) strategies	• (Yes/No)	• Some mitigation strategies (such as changes to signing/pavements markings and automated enforcement), may be suggested in the TIS, but can only be implemented by the jurisdiction	• (Yes/No/Not applicable/Text)
Alternatives if No Reasonable Mitigation Strategies	• Impact fees	• (Yes/No)	• Impact fees	• (Yes/No)	• Can improvements for other parameters/topics be used for an offset?	• (Yes/No/Not applicable/Text)

Assessment of Parameter/Topic: De-Prioritizing Vehicular Throughput (Continued)

	Quantitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Qualitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Comments	Jurisdiction Staff Assessment of Comments Column
Ease of Review by Jurisdiction (Easy, Moderate, Difficult)	<ul style="list-style-type: none"> Easy 	<ul style="list-style-type: none"> <i>(Agree/Disagree with Assessment)</i> 	<ul style="list-style-type: none"> Easy 	<ul style="list-style-type: none"> <i>(Agree/Disagree with Assessment)</i> 		<ul style="list-style-type: none"> <i>(Not applicable/Text)</i>
Likely Challenges		<ul style="list-style-type: none"> <i>(Insert any other specific challenges)</i> 		<ul style="list-style-type: none"> <i>(Insert any other specific challenges)</i> 	<ul style="list-style-type: none"> If vehicles are discouraged from using one roadway, another roadway may need to accommodate those vehicles 	<ul style="list-style-type: none"> <i>(Yes/No/Not applicable/Text)</i>
					<ul style="list-style-type: none"> It may be advisable to consider this topic/parameter in conjunction with other topics/parameters 	<ul style="list-style-type: none"> <i>(Yes/No/Not applicable/Text)</i>

From a technical analysis perspective, can this parameter generally be accommodated within existing TIS frameworks?

Yes: No:

Jurisdiction Staff Recommendation for Including This Parameter/Topic:

Yes:	<input type="checkbox"/>
No:	<input type="checkbox"/>

Jurisdiction Staff Discussion of Recommendation:

Jurisdiction Staff Recommendation for Measurement Type:

Qualitative Measurement:	<input type="checkbox"/>
Quantitative Measurement:	<input type="checkbox"/>
Both:	<input type="checkbox"/>
Not Applicable:	<input type="checkbox"/>

Assessment of Parameter/Topic: Multi-Modal Analyses

Analyst:	Date:	Project:
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	Quantitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Qualitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Comments	Jurisdiction Staff Assessment of Comments Column
Performance Metric(s)	<ul style="list-style-type: none"> • Vehicles <ul style="list-style-type: none"> ○ Level of Service (LOS) ○ Travel time reliability 	<ul style="list-style-type: none"> • (Yes/No) <ul style="list-style-type: none"> ○ (Yes/No) ○ (Yes/No) 	<ul style="list-style-type: none"> • Vehicles <ul style="list-style-type: none"> ○ Extent to which the project implements the member jurisdiction’s Complete Streets policies ○ Compliance with relevant master or comprehensive plans, including bicycle, pedestrian, and trail accommodations 	<ul style="list-style-type: none"> • (Yes/No) <ul style="list-style-type: none"> ○ (Yes/No) ○ (Yes/No) 	<ul style="list-style-type: none"> • Current quantitative performance metrics available for roadway vehicles, transit, bicycles and pedestrians must be assessed on a mode-by-mode basis, which complicates the analysis 	<ul style="list-style-type: none"> • (Yes/No/Not applicable/Text)
	<ul style="list-style-type: none"> • Transit <ul style="list-style-type: none"> ○ Travel speed (Highway Capacity Manual, Sixth Edition – HCM6) ○ Transit LOS score (HCM6) 	<ul style="list-style-type: none"> • (Yes/No) <ul style="list-style-type: none"> ○ (Yes/No) ○ (Yes/No) 	<ul style="list-style-type: none"> • Transit <ul style="list-style-type: none"> ○ Presence/absence of transit amenities (such as shelters) 	<ul style="list-style-type: none"> • (Yes/No) <ul style="list-style-type: none"> ○ (Yes/No) 	<ul style="list-style-type: none"> • Measures of traffic performance other than LOS, such as delay and queuing, could be considered 	<ul style="list-style-type: none"> • (Yes/No/Not applicable/Text)
	<ul style="list-style-type: none"> • Pedestrian <ul style="list-style-type: none"> ○ Pedestrian travel speed (HCM6) ○ Pedestrian space (HCM6) ○ Pedestrian LOS (HCM6) ○ Pedestrian delay ○ Pedestrian Level of Comfort (PLOC) 	<ul style="list-style-type: none"> • (Yes/No) <ul style="list-style-type: none"> ○ (Yes/No) ○ (Yes/No) ○ (Yes/No) ○ (Yes/No) 	<ul style="list-style-type: none"> • Pedestrian <ul style="list-style-type: none"> ○ ADA compliance for intersection ramps, sidewalk widths, etc. ○ Presence/absence of street lighting, countdown pedestrian signals, crosswalks, etc. 	<ul style="list-style-type: none"> • (Yes/No) <ul style="list-style-type: none"> ○ (Yes/No) ○ (Yes/No) 	<ul style="list-style-type: none"> • A mix of quantitative and qualitative performance metrics, by mode, might be worth considering 	<ul style="list-style-type: none"> • (Yes/No/Not applicable/Text)
	<ul style="list-style-type: none"> • Bicycle <ul style="list-style-type: none"> ○ Bicycle travel speed (HCM6) ○ Bicycle LOS (HCM6) ○ Level of Traffic Stress (LTS) 	<ul style="list-style-type: none"> • (Yes/No) <ul style="list-style-type: none"> ○ (Yes/No) ○ (Yes/No) 			<ul style="list-style-type: none"> • Some metrics may not be appropriate for all scenarios (i.e. it may not be necessary to assess micro-mobility in a rural environment) 	<ul style="list-style-type: none"> • (Yes/No/Not applicable/Text)
	<ul style="list-style-type: none"> • Micro-Mobility? 	<ul style="list-style-type: none"> • (Yes/No) 	<ul style="list-style-type: none"> • Micro-Mobility <ul style="list-style-type: none"> ○ Presence/absence of micro-mobility accommodations (such as scooter charging stations) 	<ul style="list-style-type: none"> • (Yes/No) <ul style="list-style-type: none"> ○ (Yes/No) 		

Assessment of Parameter/Topic: Multi-Modal Analyses (Continued)

	Quantitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Qualitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Comments	Jurisdiction Staff Assessment of Comments Column
Means of Assessment	• Before/after studies	• <i>(Yes/No)</i>	• Written Statement of Compatibility with Complete Streets policies and other area plans	• <i>(Yes/No)</i>	• HCM analysis can be accomplished by either Highway Capacity Software (HCS) or Synchro/SimTraffic	• <i>(Yes/No/Not applicable/Text)</i>
	• HCM	• <i>(Yes/No)</i>	• Documentation of PLOC and LTS • Documentation of other performance metric(s) described above	• <i>(Yes/No)</i> • <i>(Yes/No)</i>	• Require VISSIM for freeways and transit-specific analysis?	• <i>(Yes/No/Not applicable/Text)</i>
Threshold of Acceptability	• Improvement (or at least no worsening) in performance metrics	• <i>(Yes/No)</i>	• Full compatibility with Complete Streets policies	• <i>(Yes/No)</i>	• Improving a performance metric for one mode may lead to a decrease for other modes.	• <i>(Yes/No/Not applicable/Text)</i>
			• Acceptable levels of PLOC and LTS based on jurisdiction’s standards/guidelines	• <i>(Yes/No)</i>	• Varying the threshold of acceptability for individual modes, depending upon the urban/suburban/rural setting, may be desirable	• <i>(Yes/No/Not applicable/Text)</i>
Data Availability / Expense	• Standard traffic data collection for vehicles	• <i>(Yes/No)</i>	• Not applicable	• <i>(Not applicable)</i>		• <i>(Not applicable/Text)</i>
	• Additional data collection for transit, pedestrian, bicycle, and micro-mobility	• <i>(Yes/No)</i>				
Ease / Standardization of Analysis	• Straightforward, but not commonly used for modes other than vehicles	• <i>(Agree/Disagree with Assessment)</i>	• Straightforward	• <i>(Agree/Disagree with Assessment)</i>	• A technique would need to be established regarding prioritization of modes/which mode “governs” in a certain situation, along with how much degradation will be tolerated in the non-governing mode(s)	• <i>(Yes/No/Not applicable/Text)</i>
	• Require use of HCS, Synchro, SimTraffic, and/or VISSIM?	• <i>(Yes/No)</i>				
Availability of Reasonable Mitigation Strategies	• Geometric improvements	• <i>(Yes/No)</i>	• Geometric improvements	• <i>(Yes/No)</i>	• Some mitigation strategies (such as changes to signing/pavements markings and automated enforcement), may be suggested in the TIS, but can only be implemented by the jurisdiction	• <i>(Yes/No/Not applicable/Text)</i>
	• Operational improvements (including signing/pavement markings and lighting)	• <i>(Yes/No)</i>	• Operational improvements (including signing/pavement markings and lighting)	• <i>(Yes/No)</i>		
Alternatives if No Reasonable Mitigation Strategies	• Impact fees	• <i>(Yes/No)</i>	• Impact fees	• <i>(Yes/No)</i>	• Can improvements for other parameters/topics be used for an offset?	• <i>(Yes/No/Not applicable/Text)</i>

Assessment of Parameter/Topic: Multi-Modal Analyses (Continued)

	Quantitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Qualitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Comments	Jurisdiction Staff Assessment of Comments Column
Ease of Review by Jurisdiction (Easy, Moderate, Difficult)	<ul style="list-style-type: none"> Moderate 	<ul style="list-style-type: none"> <i>(Agree/Disagree with Assessment)</i> 	<ul style="list-style-type: none"> Easy 	<ul style="list-style-type: none"> <i>(Agree/Disagree with Assessment)</i> 	<ul style="list-style-type: none"> Quantitative analyses could be challenging to review, particularly at outset of program 	<ul style="list-style-type: none"> <i>(Yes/No/Not applicable/Text)</i>
Likely Challenges	<ul style="list-style-type: none"> Analysis of multiple modes requires additional effort 	<ul style="list-style-type: none"> <i>(Insert any other specific challenges)</i> 	<ul style="list-style-type: none"> Assessment is subjective for some performance metrics 	<ul style="list-style-type: none"> <i>(Insert any other specific challenges)</i> 	<ul style="list-style-type: none"> A physical or operational improvement that benefits one mode may actually work to the detriment of another mode 	<ul style="list-style-type: none"> <i>(Yes/No/Not applicable/Text)</i>
					<ul style="list-style-type: none"> Some factors such as travel time reliability may be too detailed for TISs at this time and may not be understood by the public as well as LOS or delay 	<ul style="list-style-type: none"> <i>(Yes/No/Not applicable/Text)</i>

From a technical analysis perspective, can this parameter generally be accommodated within existing TIS frameworks?

Yes: No:

Jurisdiction Staff Recommendation for Including This Parameter/Topic:

Yes:	<input type="checkbox"/>
No:	<input type="checkbox"/>

Jurisdiction Staff Discussion of Recommendation:

Jurisdiction Staff Recommendation for Measurement Type:

Qualitative Measurement:	<input type="checkbox"/>
Quantitative Measurement:	<input type="checkbox"/>
Both:	<input type="checkbox"/>
Not Applicable:	<input type="checkbox"/>

Assessment of Parameter/Topic: Multiple Proposed Developments

Analyst:	Date:	Project:
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	Quantitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Qualitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Comments	Jurisdiction Staff Assessment of Comments Column
Performance Metric(s)	<ul style="list-style-type: none"> All other proposed developments within X distance of subject development that have reached a certain level of approval. (Differing values of X desirable for urban vs. suburban vs. rural conditions) 	<ul style="list-style-type: none"> (Yes/No) 	<ul style="list-style-type: none"> All other proposed developments identified during Study Scoping Process 	<ul style="list-style-type: none"> (Yes/No) 	<ul style="list-style-type: none"> Needs to be firmly identified during the Study Scoping Process 	<ul style="list-style-type: none"> (Yes/No/Not applicable/Text)
	<ul style="list-style-type: none"> All other proposed developments with roadway access within TIS study area of subject development 	<ul style="list-style-type: none"> (Yes/No) 			<ul style="list-style-type: none"> If another proposed development does not require a TIS, perhaps incorporate that development via background growth rate 	<ul style="list-style-type: none"> (Yes/No/Not applicable/Text)
	<ul style="list-style-type: none"> All other proposed developments whose TIS study areas overlap the TIS study area of the subject development 	<ul style="list-style-type: none"> (Yes/No) 			<ul style="list-style-type: none"> If Quantitative Measurement is to be used, allow for flexibility, for unusual conditions 	<ul style="list-style-type: none"> (Yes/No/Not applicable/Text)
Means of Assessment	<ul style="list-style-type: none"> Number of other developments included 	<ul style="list-style-type: none"> (Yes/No) 	<ul style="list-style-type: none"> Number of other developments included 	<ul style="list-style-type: none"> (Yes/No) 		<ul style="list-style-type: none"> (Not applicable/Text)
Threshold of Acceptability	<ul style="list-style-type: none"> Not applicable 	<ul style="list-style-type: none"> (Not applicable) 	<ul style="list-style-type: none"> Not applicable 	<ul style="list-style-type: none"> (Not applicable) 		<ul style="list-style-type: none"> (Not applicable/Text)
Data Availability / Expense	<ul style="list-style-type: none"> Information readily available from jurisdiction's files 	<ul style="list-style-type: none"> (Yes/No) 	<ul style="list-style-type: none"> Information readily available from jurisdiction's files 	<ul style="list-style-type: none"> (Yes/No) 		<ul style="list-style-type: none"> (Not applicable/Text)
Ease / Standardization of Analysis	<ul style="list-style-type: none"> Standardization of identifying other developments is straightforward. 	<ul style="list-style-type: none"> (Agree/Disagree with Assessment) 	<ul style="list-style-type: none"> Will be based on jurisdiction's judgment. Strictly speaking, standardization of identifying other developments is not possible. 	<ul style="list-style-type: none"> (Agree/Disagree with Assessment) 		<ul style="list-style-type: none"> (Not applicable/Text)
	<ul style="list-style-type: none"> Analysis of other developments in TIS is straightforward 	<ul style="list-style-type: none"> (Agree/Disagree with Assessment) 	<ul style="list-style-type: none"> Analysis of other developments in TIS is straightforward 	<ul style="list-style-type: none"> (Agree/Disagree with Assessment) 		<ul style="list-style-type: none"> (Not applicable/Text)
Availability of Reasonable Mitigation Strategies	<ul style="list-style-type: none"> Not applicable 	<ul style="list-style-type: none"> (Not applicable) 	<ul style="list-style-type: none"> Not applicable 	<ul style="list-style-type: none"> (Not applicable) 		<ul style="list-style-type: none"> (Not applicable/Text)
Alternatives if No Reasonable Mitigation Strategies	<ul style="list-style-type: none"> Not applicable 	<ul style="list-style-type: none"> (Not applicable) 	<ul style="list-style-type: none"> Not applicable 	<ul style="list-style-type: none"> (Not applicable) 		<ul style="list-style-type: none"> (Not applicable/Text)
Ease of Review by Jurisdiction (Easy, Moderate, Difficult)	<ul style="list-style-type: none"> Moderate 	<ul style="list-style-type: none"> (Agree/Disagree with Assessment) 	<ul style="list-style-type: none"> Moderate 	<ul style="list-style-type: none"> (Agree/Disagree with Assessment) 		<ul style="list-style-type: none"> (Not applicable/Text)

Assessment of Parameter/Topic: Multiple Proposed Developments (Continued)

	Quantitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Qualitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Comments	Jurisdiction Staff Assessment of Comments Column
Likely Challenges	<ul style="list-style-type: none"> Unusual roadway network/access conditions may lead to unreasonable requirements 	<ul style="list-style-type: none"> <i>(Insert any other specific challenges)</i> 	<ul style="list-style-type: none"> May result in appearance of inequitable treatment of different developments 	<ul style="list-style-type: none"> <i>(Insert any other specific challenges)</i> 	<ul style="list-style-type: none"> Adjacent developments not within the same jurisdiction may be challenging 	<ul style="list-style-type: none"> <i>(Yes/No/Not applicable/Text)</i>

From a technical analysis perspective, can this parameter generally be accommodated within existing TIS frameworks?

Yes: No:

Jurisdiction Staff Recommendation for Including This Parameter/Topic:

Yes:	<input type="checkbox"/>
No:	<input type="checkbox"/>

Jurisdiction Staff Discussion of Recommendation:

Jurisdiction Staff Recommendation for Measurement Type:

Qualitative Measurement:	<input type="checkbox"/>
Quantitative Measurement:	<input type="checkbox"/>
Both:	<input type="checkbox"/>
Not Applicable:	<input type="checkbox"/>

Assessment of Parameter/Topic: Balancing Housing/Business/Traffic

Analyst:	Date:	Project:
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	Quantitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Qualitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Comments	Jurisdiction Staff Assessment of Comments Column
Performance Metric(s)	<ul style="list-style-type: none"> Reduced vehicular trip generation 	<ul style="list-style-type: none"> <i>(Yes/No)</i> 	<ul style="list-style-type: none"> Provision/participation in program(s) to discourage vehicular trip generation 	<ul style="list-style-type: none"> <i>(Yes/No)</i> 	<ul style="list-style-type: none"> Actual changes in trip generation could only be assessed in a Post-Development Audit 	<ul style="list-style-type: none"> <i>(Yes/No/Not applicable/Text)</i>
	<ul style="list-style-type: none"> Increased transit, micro-mobility, bicycle and/ or pedestrian trip generation 	<ul style="list-style-type: none"> <i>(Yes/No)</i> 			<ul style="list-style-type: none"> Consider allowing more vehicular congestion to encourage use of other modes 	<ul style="list-style-type: none"> <i>(Yes/No/Not applicable/Text)</i>
	<ul style="list-style-type: none"> Provision of infrastructure to discourage vehicular trip generation 	<ul style="list-style-type: none"> <i>(Yes/No)</i> 				
Means of Assessment	<ul style="list-style-type: none"> Post-Development Audit 	<ul style="list-style-type: none"> <i>(Yes/No)</i> 	<ul style="list-style-type: none"> Financial commitment for program(s) to discourage vehicular trip generation 	<ul style="list-style-type: none"> <i>(Yes/No)</i> 		<ul style="list-style-type: none"> <i>(Not applicable/Text)</i>
	<ul style="list-style-type: none"> Design plans for infrastructure 	<ul style="list-style-type: none"> <i>(Yes/No)</i> 				
Threshold of Acceptability	<ul style="list-style-type: none"> Reduced vehicular trip generation 	<ul style="list-style-type: none"> <i>(Yes/No)</i> 	<ul style="list-style-type: none"> Financial commitment 	<ul style="list-style-type: none"> <i>(Yes/No)</i> 	<ul style="list-style-type: none"> Actual changes in trip generation could only be assessed in a Post-Development Audit 	<ul style="list-style-type: none"> <i>(Yes/No/Not applicable/Text)</i>
	<ul style="list-style-type: none"> Additional infrastructure 	<ul style="list-style-type: none"> <i>(Yes/No)</i> 			<ul style="list-style-type: none"> How much infrastructure/financial commitment would be “acceptable”? 	<ul style="list-style-type: none"> <i>(Yes/No/Not applicable/Text)</i>
Data Availability / Expense	<ul style="list-style-type: none"> Readily available for compliance with infrastructure design standards 	<ul style="list-style-type: none"> <i>(Agree/Disagree with Assessment)</i> 	<ul style="list-style-type: none"> Not applicable 	<ul style="list-style-type: none"> <i>(Not applicable)</i> 		<ul style="list-style-type: none"> <i>(Not applicable/Text)</i>
	<ul style="list-style-type: none"> Dependent upon criteria for Post-Development Audit, for changes in trip generation 	<ul style="list-style-type: none"> <i>(Agree/Disagree with Assessment)</i> 				
Ease / Standardization of Analysis	<ul style="list-style-type: none"> Straightforward, for compliance with infrastructure design standards 	<ul style="list-style-type: none"> <i>(Agree/Disagree with Assessment)</i> 	<ul style="list-style-type: none"> Straightforward 	<ul style="list-style-type: none"> <i>(Agree/Disagree with Assessment)</i> 	<ul style="list-style-type: none"> Infrastructure/financial requirements would need to be developed. 	<ul style="list-style-type: none"> <i>(Yes/No/Not applicable/Text)</i>
	<ul style="list-style-type: none"> Dependent upon procedures for Post-Development Audit, for changes in trip generation 	<ul style="list-style-type: none"> <i>(Agree/Disagree with Assessment)</i> 			<ul style="list-style-type: none"> Requirements would need to vary by location. (For example, provision of a sidewalk in a rural location, without connections to other sidewalks, may not be practical or even desirable. However, reservation of right-of-way for a future system of sidewalks could be appropriate.) 	<ul style="list-style-type: none"> <i>(Yes/No/Not applicable/Text)</i>

Assessment of Parameter/Topic: Balancing Housing/Business/Traffic (Continued)

	Quantitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Qualitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Comments	Jurisdiction Staff Assessment of Comments Column
Availability of Reasonable Mitigation Strategies	• None, for compliance with infrastructure design standards	• <i>(Agree/Disagree with Assessment)</i>	• None	• <i>(Yes/No)</i>	• Incentives for mixed-use development could be considered, such as accepting reduced trip generation and internal trips	• <i>(Yes/No/Not applicable/Text)</i>
	• Dependent upon procedures for Post-Development Audit, for changes in trip generation	• <i>(Agree/Disagree with Assessment)</i>				
Alternatives if No Reasonable Mitigation Strategies	• Not applicable, for compliance with infrastructure design standards	• <i>(Agree/Disagree with Assessment)</i>	• Impact fees	• <i>(Yes/No)</i>		• <i>(Not applicable/Text)</i>
	• Dependent upon procedures for Post-Development Audit, for changes in trip generation	• <i>(Agree/Disagree with Assessment)</i>				
Ease of Review by Jurisdiction (Easy, Moderate, Difficult)	• Easy, for compliance with infrastructure design standards	• <i>(Agree/Disagree with Assessment)</i>	• Moderate	• <i>(Agree/Disagree with Assessment)</i>	• Likely to require qualitative judgment of “acceptable” in some cases	• <i>(Yes/No/Not applicable/Text)</i>
	• For changes in trip generation, dependent upon procedures for Post-Development Audit	• <i>(Agree/Disagree with Assessment)</i>				
Likely Challenges	• Dependent upon procedures for Post-Development Audit	• <i>(Insert any other specific challenges)</i>	• Development of standards	• <i>(Insert any other specific challenges)</i>		• <i>(Not applicable/Text)</i>
			• Consistency in application of standards	• <i>(Insert any other specific challenges)</i>		

From a technical analysis perspective, can this parameter generally be accommodated within existing TIS frameworks?

Yes: No: **X**

Jurisdiction Staff Recommendation for Including This Parameter/Topic:

Yes:	
No:	

Jurisdiction Staff Discussion of Recommendation:

Jurisdiction Staff Recommendation for Measurement Type:

Qualitative Measurement:	
Quantitative Measurement:	
Both:	
Not Applicable:	

Assessment of Parameter/Topic: Post-Development Audit

Analyst:	Date:	Project:
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	Quantitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Qualitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Comments	Jurisdiction Staff Assessment of Comments Column
Performance Metric(s)	• Net site trip generation by mode (proffered in selected horizon year)	• <i>(Yes/No)</i>	• Compliance with proffered TDM/mitigation measure(s)	• <i>(Yes/No)</i>	• Measures of traffic performance other than LOS, such as delay and queuing, could be considered	• <i>(Yes/No/Not applicable/Text)</i>
	• Trip distribution pattern	• <i>(Yes/No)</i>	• Compliance with Conditions of Approval	• <i>(Yes/No)</i>		
	• Levels of service	• <i>(Yes/No)</i>				
	• Traffic growth – study area roadway network	• <i>(Yes/No)</i>				
	• Proffered/required off-site improvements	• <i>(Yes/No)</i>				
Means of Assessment	• Various site trip generation and mode split surveys/driveway counts	• <i>(Yes/No)</i>	• Comparison of predicted versus actual operational situations	• <i>(Yes/No)</i>	• A mix of both quantitative and qualitative assessment may be useful	• <i>(Yes/No/Not applicable/Text)</i>
	• Intersection turning movement counts and capacity analysis	• <i>(Yes/No)</i>	• Evaluation of effectiveness of TDM/mitigation measures	• <i>(Yes/No)</i>		
	• Review of broad-base data reflecting growth trends, such as SHA AADT database	• <i>(Yes/No)</i>				
Threshold of Acceptability	• Established vehicle trip generation limits (“trip caps”)	• <i>(Yes/No)</i>	• Compliance with proposed TDM measures	• <i>(Yes/No)</i>	• A mix of both quantitative and qualitative assessment may be useful	• <i>(Yes/No/Not applicable/Text)</i>
	• Projected Levels of Service	• <i>(Yes/No)</i>	• Compliance with other Conditions of Approval	• <i>(Yes/No)</i>		
	• Projected trip distribution pattern	• <i>(Yes/No)</i>				
Data Availability / Expense	• Previously approved TIS document	• <i>(Yes/No)</i>	• Previously approved TIS and other supporting documents available from jurisdiction’s records	• <i>(Yes/No)</i>	• Ease of obtaining the data will be an important consideration (i.e., can the data be easily accessed online or through a time-consuming process?)	• <i>(Yes/No/Not applicable/Text)</i>
	• Archived traffic data (from MDOT SHA or jurisdiction)	• <i>(Yes/No)</i>				
	• New traffic count data	• <i>(Yes/No)</i>				
Ease / Standardization of Analysis	• Analysis procedure based on traffic engineering and transportation planning principles considered straightforward	• <i>(Agree/Disagree with Assessment)</i>	• Procedure for evaluating compliance is somewhat straightforward	• <i>(Agree/Disagree with Assessment)</i>		• <i>(Not applicable/Text)</i>
Availability of Reasonable Mitigation Strategies	• Not applicable	• <i>(Not applicable)</i>	• Not applicable	• <i>(Not applicable)</i>	• Post development audit can be considered as an “after the fact” type of evaluation. Therefore, this factor may not be applicable	• <i>(Yes/No/Not applicable/Text)</i>
Alternatives if No Reasonable Mitigation Strategies	• Not applicable	• <i>(Not applicable)</i>	• Not applicable	• <i>(Not applicable)</i>	• Post development audit can be considered as an “after the fact” type of evaluation. Therefore, this factor may not be applicable	• <i>(Yes/No/Not applicable/Text)</i>

Assessment of Parameter/Topic: Post-Development Audit (Continued)

	Quantitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Qualitative Measurement	Jurisdiction Staff Assessment: Should this line item be incorporated into TISs?	Comments	Jurisdiction Staff Assessment of Comments Column
Ease of Review by Jurisdiction (Easy, Moderate, Difficult)	<ul style="list-style-type: none"> Moderate 	<ul style="list-style-type: none"> <i>(Agree/Disagree with Assessment)</i> 	<ul style="list-style-type: none"> Easy 	<ul style="list-style-type: none"> <i>(Agree/Disagree with Assessment)</i> 	<ul style="list-style-type: none"> Review process involves a comparison of predicted vs. actual situations. (i.e., case of comparing apples with apples) 	<ul style="list-style-type: none"> <i>(Yes/No/Not applicable/Text)</i>
Likely Challenges	<ul style="list-style-type: none"> Some of the metrics are difficult to quantify, considering that traffic volumes typically fluctuate daily 	<ul style="list-style-type: none"> <i>(Insert any other specific challenges)</i> 	<ul style="list-style-type: none"> Conditions stipulated in an accompanying resolution will have to be highly specific 	<ul style="list-style-type: none"> <i>(Insert any other specific challenges)</i> 	<ul style="list-style-type: none"> Would this be completed by the jurisdiction or the developer? (It would probably be the jurisdiction.) 	<ul style="list-style-type: none"> <i>(Yes/No/Not applicable/Text)</i>
	<ul style="list-style-type: none"> Establishing a “degree of allowance/acceptability” with respect to analysis thresholds 	<ul style="list-style-type: none"> <i>(Insert any other specific challenges)</i> 	<ul style="list-style-type: none"> Potential need for revision of Adequacy of Public Facilities Ordinance 	<ul style="list-style-type: none"> <i>(Insert any other specific challenges)</i> 	<ul style="list-style-type: none"> Who would pay for the audit? (A developer “escrow” account could be used.) 	<ul style="list-style-type: none"> <i>(Yes/No/Not applicable/Text)</i>
	<ul style="list-style-type: none"> Potential for deterring private sector development/investment 	<ul style="list-style-type: none"> <i>(Insert any other specific challenges)</i> 			<ul style="list-style-type: none"> Will this be a requirement for all types of development, regardless of the location and size? 	<ul style="list-style-type: none"> Would this requirement be on a case-by-case basis?

From a technical analysis perspective, can this parameter generally be accommodated within existing TIS frameworks?

Yes: No: **X**

Jurisdiction Staff Recommendation for Including This Parameter/Topic:

Yes:	
No:	

Jurisdiction Staff Discussion of Recommendation:

Jurisdiction Staff Recommendation for Measurement Type:

Qualitative Measurement:	
Quantitative Measurement:	
Both:	
Not Applicable:	

Assessment of Parameter/Topic: Variable Transportation Impact Study Requirements

Analyst:	Date:	Project:
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1. Is there a compelling reason to have variable TIS requirements?

A single type of TIS may fail to account for some desirable performance metrics in some, but not all situations. For example, consideration of parking management may be desirable in a dense urban setting, but may not be particularly relevant in a rural setting.

Jurisdiction Staff Discussion:

2. Does the master plan or other planning document(s) offer a straightforward method of establishing the different types of TIS to be identified?

If not, the type of TIS could perhaps be identified as part of the Study Scoping Process.

Jurisdiction Staff Discussion:

3. How many different types of TIS would be appropriate?

The larger the number of different types, the larger the number of types of review.

Jurisdiction Staff Discussion:

4. How would Performance Metrics, Means of Assessment and Thresholds of Acceptability vary by type of TIS?

For example, an LOS of "E" or even "F" might be acceptable in a dense urban setting, but not in a rural setting.

Jurisdiction Staff Discussion:

Assessment of Parameter/Topic: Variable TIS Requirements (Continued)

5. How would Data Availability/Expense, Ease/Standardization of Analysis, Availability of Reasonable Mitigation Strategies and Alternatives if No Reasonable Mitigation Strategies vary by type of TIS?

Inclusion of an additional Performance Metric would require consideration of each of these items as well.

Jurisdiction Staff Discussion:

6. How will Ease of Review by Jurisdiction be affected by variable types of TIS?

Strictly speaking, additional types of TIS will make the efforts of reviewers more complicated. However, the added complexity would not necessarily be extensive.

Jurisdiction Staff Discussion:

7. What are the Likely Challenges to implementing variable TIS requirements?

In addition to the items noted above, there could be resistance from TIS preparers regarding any additional complexity involved. Also, including variable TIS requirements could potentially require jurisdictions to change their Adequate Public Facilities Ordinances.

Jurisdiction Staff Discussion:

8. From a technical analysis perspective, can this parameter generally be accommodated within existing TIS frameworks?

Yes: No:

Jurisdiction Staff Recommendation for Including Parameter/Topic:

Yes:	<input type="checkbox"/>
No:	<input type="checkbox"/>

Jurisdiction Staff Discussion of Recommendation: