



Department of Transportation

Transportation Review Guidelines Updating for Complete Streets

Presentation to TAC

March 24, 2011

Part 1

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Objectives

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- **Current Practice and Traffic Impact Guidelines**
 - > Sunnyvale Case -CEQA Law
 - > Cumulative Projects
 - > Review of Thresholds for Requiring Traffic Impact Studies
- **Updating for Complete Streets**
 - > Street Segment Impacts
 - > Study Intersection Impacts
 - > Multi Modal Level of Service (MMLoS)

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Current Practice & Guidelines

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Purpose:

- To provide the public, private consultants and City staff with standards, guidelines, objectives and criteria to be used in the preparation of a traffic study
- To promote consistency and fairness in the Department's review of traffic studies
- To minimize technical disagreements
- To ensure legal defensibility of the Department's findings and determinations

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Is a Traffic Impact Review Required?

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- Transportation impact analyses are an integral part of the environmental review process that is required for all proposed projects that are not categorically exempt under the California Environmental Quality Act (CEQA).
- Under CEQA, jurisdictions have the right to categorically exempt projects consisting of less than five housing units and nonresidential projects with less than 2,500 square feet of floor area (CEQA 15303).
- Upon submission of an application for discretionary action, the City of Pasadena Department of Transportation (PasDOT) will determine whether or not a transportation review is required relative to the CEQA guidelines and City policy (thresholds).

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Thresholds for requiring Transportation Review

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TYPE OF PROJECT	EXEMPTION	Category 1: TRANSPORTATION ASSESSMENT (TA)	Category 2: TRANSPORTATION IMPACT STUDY (TIS)
Residential (based on # of units)	4 units or less	5 – 25 units	26+ units
Commercial (based on # of net new trips)	Less than 70 daily trips and less than 11 trips in any peak hour	71 – 150 daily trips, or 11 – 20 trips in any peak hour	151+ daily trips, or more than 20 trips in any peak hour

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Process

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If a review is required, the following steps describe how to initiate the process:

- Applicant contacts PasDOT with a request to commence the study
- PasDOT solicits bids from a list of consultants who have been pre-qualified (Transportation Assessments are assigned on a rotating basis for a flat fee.)
- PasDOT forwards the best bid (based on cost, schedule, and experience) to the applicant for approval.
- Once authorization to proceed is received from the applicant along with a deposit to fund the study and pay the City's Traffic Review Fee, PasDOT prepares a purchase order and instructs the consultant to commence the work

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Trip Generation Rates

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- Institute of Transportation Engineers (ITE) Trip Generation Handbook
- San Diego Association of Government (SANDAG)
- Conduct Surveys of similar Unique Uses

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Traffic Assessment – Street Segment Thresholds

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Traffic Growth on Street Segment	Required Traffic Mitigation Measures
0.0 - 2.4% Daily Traffic Growth	Staff review and conditions
2.5% - 4.9% Daily Traffic Growth	<ul style="list-style-type: none">• Initial study required if existing count is greater than 2,000 VPD;• Soft mitigation required
5.0% - 7.4 % Daily Traffic Growth	<ul style="list-style-type: none">• Initial study required;• Soft mitigation required;• Physical mitigation may be required
7.5% + Daily Traffic Growth	<ul style="list-style-type: none">• Initial study required;• Soft mitigation required;• Extensive physical mitigation may be required;• Project alternatives may be considered

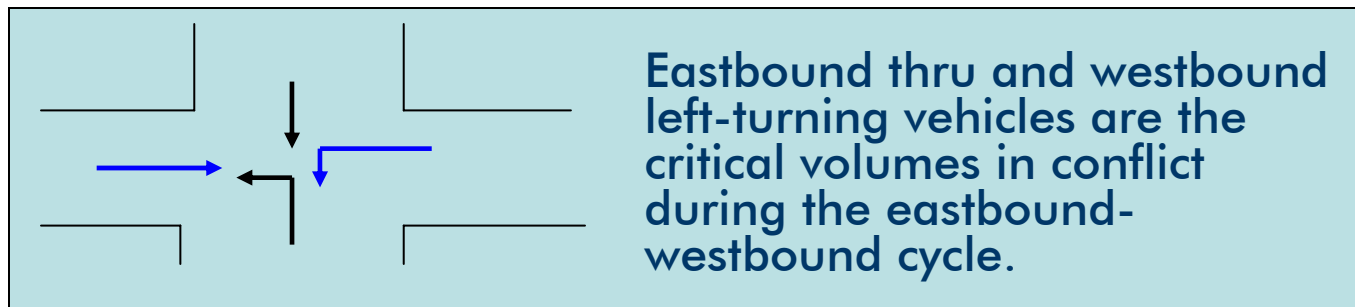
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Definitions

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- **Critical Volumes (V)**- sum of critical volumes of vehicles in all directions at an intersection during peak hours. Generally, critical volumes are conflicting moves/vehicles that cannot clear the intersection concurrently. For example, eastbound moving vehicles are in conflict with westbound left-turning vehicles.



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Definitions-continued

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- **Intersection Capacity (C)**- maximum capacity of an intersection defined as maximum number of critical volumes of vehicles that can clear an intersection in an hour.
- **V/C** – Ratio of volume over capacity.

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Level of Service (LOS)

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Level of Service (LOS)	V/C
A	0-0.60
B	0.61-0.70
C	0.71-0.80
D	0.81-0.90
E	0.91-1.00
F	>1.0

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Thresholds of Significance

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Public agencies are encouraged to develop thresholds of significance as convenient tools to help them assess the significance of potential impacts.

The guidelines—contained in Title 14, Chapter 3, of the California Code of Regulations—are binding on all public agencies in California when implementing CEQA. Specifically, Section 15064.7 of the guidelines (“Thresholds of Significance”) states:

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Thresholds of Significance-Cont.

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(a) Each public agency is encouraged to develop and publish thresholds of significance that the agency uses in the determination of the significance of environmental effects. A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, noncompliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant.

(b) Thresholds of significance to be adopted for general use as part of the lead agency's environmental review process must be...supported by substantial evidence.

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Intersection LOS Significant Impact Thresholds

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Intersection Level of Service- Pre-project Conditions	Change in Volume to Capacity (V/C) (Future w/Project less Future w/o Project)
A	0.060
B	0.050
C	0.040
D	0.030
E	0.020
F	0.010

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Change in V/C Calculations

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I N T E R S E C T I O N	Peak Hour AM/PM	Existing Year A	Existing w/Project B	Change in V/C (recent case Sunnyva -le Case Law) $\Delta = A - B$	Future pre-project w/Ambient growth	Future Pre- Project w/Ambient + Related Projects C	Future With Project D	Change in V/C $\Delta = D - C$
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Recommendation

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COMPLETE STREETS TRANSPORTATION REVIEW GUIDELINES

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California Law- The Complete Street Act (AB 1358)

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“The Complete Streets Act of 2007 will ensure that the transportation plans of California communities meet the needs of all users of the roadway including pedestrians, bicyclists, users of public transit, motorists, children, the elderly, and the disabled.”

AB 1358- Effective January 1st , 2011

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Complete Streets

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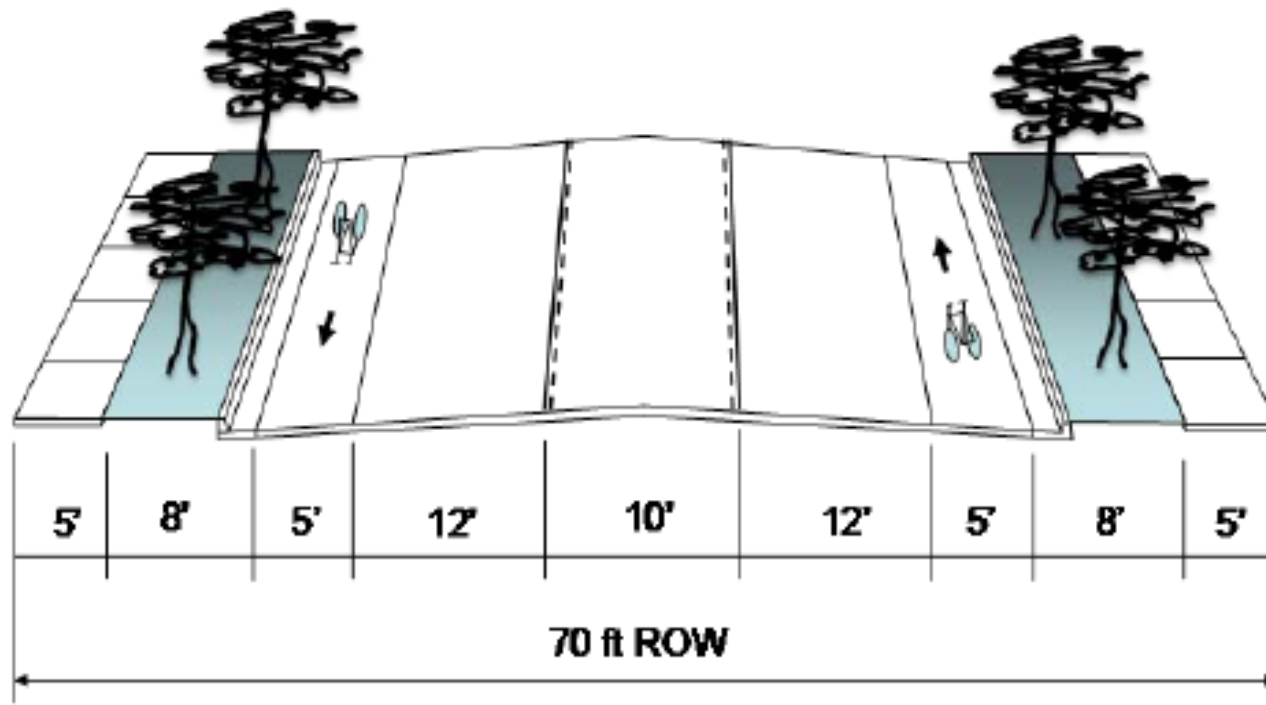
- "Complete streets" is a relatively new term that has entered into the parlance of transportation planning. Complete streets policies promote planning, engineering and transportation policies that provide a safer road network for all users, be they drivers, cyclists, pedestrians or transit users.
- The National Complete Streets Coalition (NCSC) defines a complete street as "a street that works for motorists, bus riders, cyclists and pedestrians, including those with disabilities." A complete street is, therefore, one that takes into account each mode of transport and uses a variety of policies, bylaws and infrastructure to make a street fully multi-modal.

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Public Right-of-Way Shared by Four Major Users

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Complete Street Images

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Proposed Complete Street Transportation Guidelines

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To Comply with AB 1358, the Department of Transportation recommends updating the Current automobile-based Transportation Review Guidelines with the Complete Street Transportation Review Guidelines.

The proposed guidelines will assess traffic-related impacts on four main modes of travel that use the street system (pedestrians, bicycles, transit, and vehicles).

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Current vs. Proposed Guidelines

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	Auto Intersection LOS	Pedestrian Intersection LOS	Auto Street Segment LOS	Pedestrian Street Segment LOS	Bicycle Street Segment LOS	Transit Street Segment LOS
Current Guidelines	X		X			
Proposed Guidelines	X	X	X	X	X	X

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Proposed Methodology

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	Current Methodology	Proposed Methodology	Significant Impact Thresholds
Auto Intersection LOS	Intersection Capacity Utilization (ICU)	ICU	No Change
Pedestrian Intersection LOS	None	Multi-Modal Level of Service (MMLOS)	TBD
Auto Segment LOS	Ratio of Project plus Existing Auto Volumes over Existing Auto Volumes	MMLOS	TBD
Pedestrian Segment LOS	None	MMLOS	TBD
Bicycle Segment LOS	None	MMLOS	TBD
Transit Segment LOS	None	MMLOS	TBD

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Multi Modal Level of Service (MMLoS) for Urban Streets

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Multi Modal Level of Service for Urban Streets- National Cooperative Highway Research Program- Report No. 616- The MMLoS method is designed for evaluating “complete streets,” context-sensitive design alternatives, and smart growth from the perspective of all users of the street. The MMLoS evaluates the perceived quality of service for passenger car driver, bus passenger, bicycle rider, and pedestrians. The MMLoS method estimates the auto, bus, bicycle, and pedestrian level of service on an urban street using a combination of readily available data and data normally gathered by an agency to assess auto and transit level of service. The data requirements of the MMLoS method include geometric cross-section, signal timing, the posted speed limit, bus headways, traffic volumes, transit patronage, and pedestrian volumes.

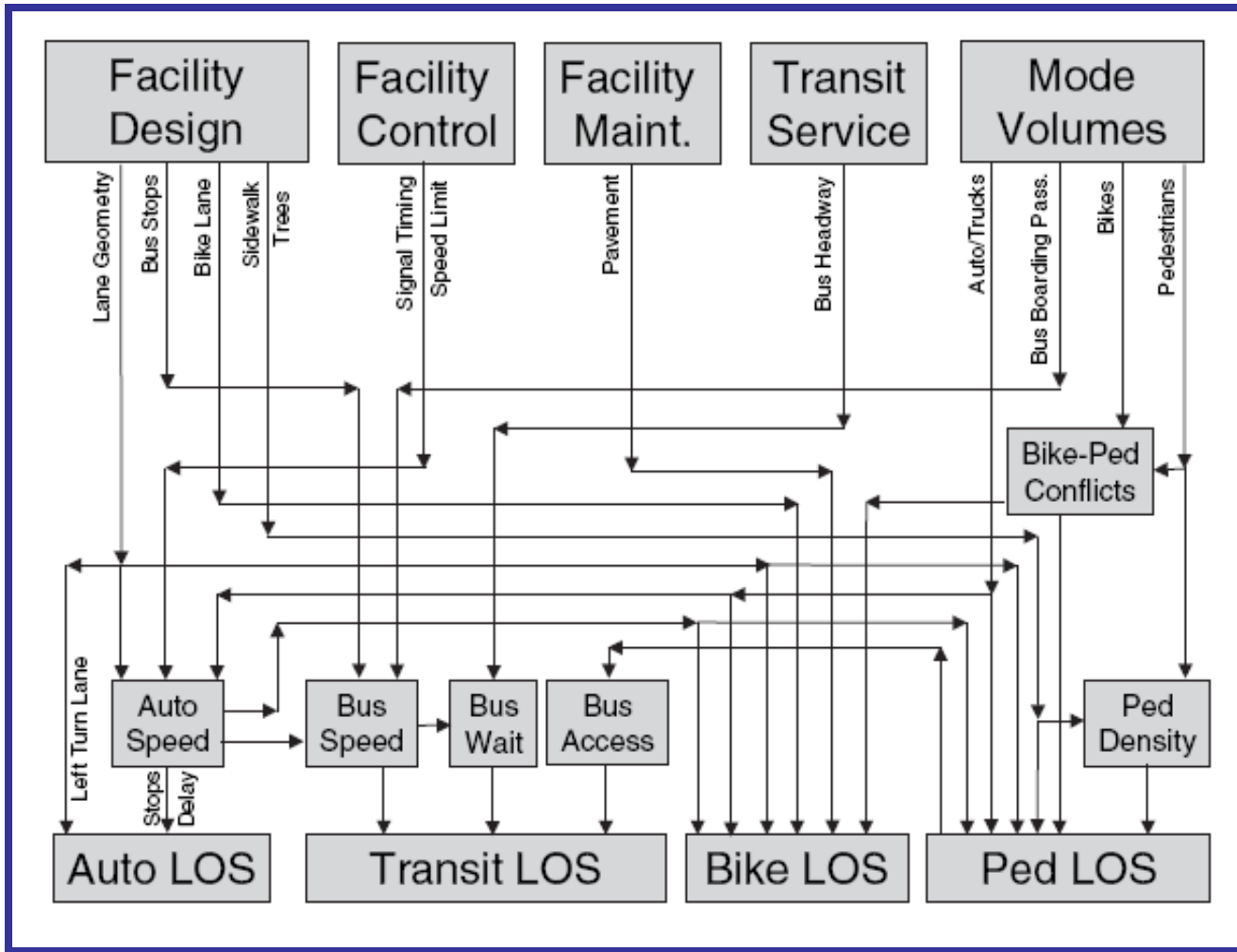
trb.org/publications/nchrp/nchrp_rpt_616.pdf

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MMLOS Model Interaction

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Interdependency of all modes is evident in the MMLOS model.

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MMLOS Model

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The LOS rating for an urban street is the weighted average of the sum of the probabilities of people reporting each LOS rating multiplied by a system of weights that gives greater weight to the proportion of people who perceive poorer level of service.

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MMLOS Level of Service Thresholds

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LOS model output presented below is used to translate complex numerical performance results into a simple letter grade system representative of the travelers' perception of the resulting quality of service provided by the facility. It is a quantitative stratification of quality of service into six levels of service.

LOS Letter Grade Numerical Equivalents

LOS Model Output	LOS Grade
≤ 2.00	A
$2.00 < \text{Model} \leq 2.75$	B
$2.75 < \text{Model} \leq 3.50$	C
$3.50 < \text{Model} \leq 4.25$	D
$4.25 < \text{Model} \leq 5.00$	E
$\text{Model} > 5.00$	F

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MMLOS Modes Influential Factors

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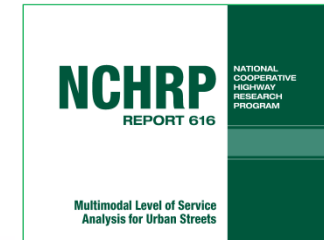
The MMLOS calculation for each mode is based on each mode's users perception of level of service and factors that influences their perception. Typical street sections were shown to people in four metro areas. The influential factors for each mode are as follows:

Motorists:

- Presence of Median
- Landscaping
- Signal Progression (number of stops)
- Posted Speed Limit

Pedestrian:

- Sidewalk Width
- Separation of Walkway from Traffic
- Traffic Speed
- Pedestrian Volumes
- Number of Traffic Lanes
- Traffic Signal Delay



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MMLOS Modes Influential Factors- Cont.

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Bicyclists:

- Width of Outside lane
- Presence and width of Bike Lane
- Speed Limit
- Intersection Crossing Width
- Intersection Type of Control

Transit Users:

- Frequency
- Speed
- Reliability, On Time Percentage (OTP)
- Bus Stop Amenities (Bench, Shelter)
- Pedestrians Access to Stops
- Load Factor (Passenger/seat)

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Case Studies

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- **Commercial Project at 880 E. Colorado Boulevard at Lake Avenue**
- **Proposed Orange Grove Road Diet Project between Hill Avenue and Sierra Madre Boulevard**

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Next steps

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- **Part 2**
 - > Thresholds for Requiring a Traffic study
 - > Significant Impact Thresholds for Intersection & Segment Level of Service
 - > Existing Use Credit
- **Part 3**
 - > Modified Guideline language

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Discussion

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Questions?

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