Vehicle-Miles-Traveled for Smarter Development

Webinar
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Webinar Hosts

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Outline

1. Background: VTA and Local Jurisdictions

2. Background: Level of Service and Vehicle Miles Traveled

3. What Senate Bill 743 Does

4. Implications for VTA and Local Jurisdictions

5. Next Steps and Key Take-Aways

6. Questions & Answers

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1. Background: VTA and Local Jurisdictions
About VTA

• Independent special district, covering 15 cities and the County of Santa Clara ("local jurisdictions")

• Responsible for:
  – Bus, light rail and paratransit operations;
  – Congestion management;
  – Specific highway improvement projects; and
  – Countywide transportation planning

• Involved with transit, freeways, Express Lanes, bikeways and pedestrian facilities

• Also the Congestion Management Agency (CMA) and the transportation sales tax authority for Santa Clara County
VTA’s Local Jurisdictions

15 cities/towns plus the County of Santa Clara

(Source: www.upnest.com)

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Roles: Land Use and Development

• Most developments are proposed by private developers
• Local jurisdictions analyze projects, have authority to approve projects and plans
• VTA may review and comment, but does not have decision-making authority
Roles: Transportation Projects

- Most transportation projects are led by public agencies
- Both VTA and local jurisdictions have authority to approve transportation projects
VTA’s Congestion Management Program Role

• CMA Legislation (1991) requires establishment of a CMP in urbanized counties
• Legislation requires:
  • “a program to analyze the impacts of land use decisions made by local jurisdictions on regional transportation systems”
  • uniform methodology for analyzing Level of Service
• VTA is the CMA and maintains the CMP for Santa Clara County
2. Background: Level of Service and Vehicle Miles Traveled
Background: Level of Service and Vehicle Miles Traveled

• Vehicular **Level of Service (LOS)** - a way of measuring transportation performance that focuses on delay and congestion; letter scale from A to F

• **Vehicle Miles Traveled (VMT)** - measures amount of vehicular travel across the system, rather than at specific points; usually expressed per person
Level of Service (LOS)

**Table 1. Level of Service Criteria for Signalized Intersections**

<table>
<thead>
<tr>
<th>Level of Service</th>
<th>Average Control Delay (sec/veh)</th>
<th>General Description (Signalized Intersections)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>≤10</td>
<td>Free Flow</td>
</tr>
<tr>
<td>B</td>
<td>&gt;10 - 20</td>
<td>Stable Flow (slight delays)</td>
</tr>
<tr>
<td>C</td>
<td>&gt;20 - 35</td>
<td>Stable flow (acceptable delays)</td>
</tr>
<tr>
<td>D</td>
<td>&gt;35 - 55</td>
<td>Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)</td>
</tr>
<tr>
<td>E</td>
<td>&gt;55 - 80</td>
<td>Unstable flow (intolerable delay)</td>
</tr>
<tr>
<td>F</td>
<td>&gt;80</td>
<td>Forced flow (jammed)</td>
</tr>
</tbody>
</table>
Vehicle Miles Traveled (VMT)

### 2013 Minnesota VMT-per-capita by County

Map © Adam Froehlig, 2015

VMT-per-capita values calculated using 2013 VMT data from MnDOT and 2013 population estimates from MN State Demographer.

<table>
<thead>
<tr>
<th>Traveler and Trip Type</th>
<th>Daily VMT per Capita</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Benchmark (region-wide average)</td>
</tr>
<tr>
<td>Worker</td>
<td>16.18</td>
</tr>
<tr>
<td>Home-Based-Work Daily VMT per Worker</td>
<td></td>
</tr>
<tr>
<td>Resident</td>
<td>17.33</td>
</tr>
<tr>
<td>Home-Based Daily VMT per Capita</td>
<td></td>
</tr>
</tbody>
</table>

Source: Fehr & Peers, 2016
LOS and VMT

• For the past few decades, transportation analysis of projects has focused on Level of Service.

• Senate Bill 743 is shifting the emphasis to Vehicle Miles Traveled.

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Transportation Impact Analysis Today: Problems

1. Good grade in LOS ≠ Success in Transportation

“...time lost to commuter traffic delays is more than off-set by the greater opportunities to reach destinations over shorter distances to which high development densities gives rise.”

Mondschein, Osman, Taylor, Thomas
Which is better?

45 min commute, including 5 min from congestion

Good LOS Grade
Bad Accessibility

20 min commute, including 10 min from congestion

Bad LOS Grade
Good Accessibility

(Courtesy of Governor’s Office of Planning and Research)
Level of Service A

(Courtesy of Governor’s Office of Planning and Research)
Level of Service F

(Courtesy of Governor’s Office of Planning and Research)
Transportation Impact Analysis Today: Problems

1. Punishes last-in, inhibits infill, pushes development outward

http://www.opr.ca.gov/docs/ITE_Journal_Article_-Decisions_Values_and_Data.pdf

(Courtesy of Governor’s Office of Planning and Research)
Transportation Impact Analysis Today: Problems

1. Punishes last-in, inhibits infill, pushes development outward

2. Inhibits transit and active transportation

http://www.opr.ca.gov/docs/ITE_Journal_Article_-_Decisions_Values_and_Data.pdf

(Courtesy of Governor’s Office of Planning and Research)
Transportation Impact Analysis Today: Problems

1. Punishes last-in, inhibits infill, pushes development outward
2. Inhibits transit and active transportation
3. Forces more road construction than we can afford to maintain


(Courtesy of Governor’s Office of Planning and Research)
Transportation Impact Analysis Today: Problems

1. Punishes last-in, inhibits infill, pushes development outward
2. Inhibits transit and active transportation
3. Forces more road construction than we can afford to maintain
4. Generates an array of environmental impacts

Peer-reviewed research on environmental impacts from high VMT projects:
- Emissions
  - GHG
  - Regional pollutants
- Energy use
  - Transportation energy
  - Building energy
- Water
  - Water use
  - Runoff – flooding
  - Runoff – pollution
- Consumption of open space
  - Sensitive habitat
  - Agricultural land


(Courtesy of Governor’s Office of Planning and Research)
Transportation Impact Analysis Today: Problems

1. Punishes last-in, inhibits infill, pushes development outward
2. Inhibits transit and active transportation
3. Forces more road construction than we can afford to maintain
4. Generates an array of environmental impacts
5. **Worsens public health and safety**


(Courtesy of Governor’s Office of Planning and Research)
Benefits of VMT as a Measure of Transportation Impact

1. Streamline TOD
2. Streamline infill
3. Streamline transit projects
4. Streamline active transportation projects
5. Streamline locally-serving retail
6. Streamline modeling for remaining projects
7. Attack regional congestion more effectively
8. Reduce future pavement maintenance deficits
9. Massive public health improvements
10. Reduction in GHG and other emissions

(Courtesy of Governor’s Office of Planning and Research)
CA GREENHOUSE GAS INVENTORY 2014
BY SECTOR AND ACTIVITY (2016 EDITION)

Transportation-Related Industrial Emissions

- 9.9% Pipelines
- 54.3% Petroleum Refining and Hydrogen Production
- 35.7% Oil and Gas Extraction

http://ca50million.ca.gov/Transportation/transportation.html

(Courtesy of Governor’s Office of Planning and Research)
3. What Senate Bill 743 Does
Senate Bill 743

- Became state law in September 2013

- Intended to promote:
  - Reduction of Greenhouse Gas emissions
  - Multimodal transportation networks
  - Diversity of land uses

- Mainly affects the California Environmental Quality Act (CEQA), our state’s law for env. review of proposed projects

- Effects ripple to other areas
Smarter Development

Solutions that move you
Multimodal Transportation

Solutions that move you
Transportation Analysis of Development Projects

The “three-legged stool”

CEQA (California Environmental Quality Act)
CMP (Congestion Management Program)
Local policies/practices

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Transportation Analysis of Development Projects

How SB 743 is changing things

SB 743 changes start here

CEQA (California Environmental Quality Act)

CMP (Congestion Management Program)

Local policies/practices

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Transportation Analysis of Development Projects

How SB 743 is changing things

SB 743 changes start here

CEQA (California Environmental Quality Act)

but will ripple to here

CMP (Congestion Management Program)

Local policies/practices

Solutions that move you
Transportation Analysis of Development Projects

How SB 743 is changing things

SB 743 changes start here

CEQA (California Environmental Quality Act)

but will ripple to here

CMP (Congestion Management Program)

and here

Local policies/practices

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Senate Bill 743 – CEQA

SB 743 primarily changes CEQA practice

• Directs Governor’s Office of Planning and Research (OPR) to establish new CEQA criteria for transportation impacts

• “Automobile delay… shall not be considered a significant impact on the environment” in locations where the new criteria will apply

• OPR has indicated that the new primary metric will be VMT, state-wide
SB 743 – CMP and Local Practice

SB 743 and Congestion Management Programs (CMPs):
• Reinstates the ability of cities and counties to designate “Infill Opportunity Zones” (IOZs) where CMP LOS standard would not apply

SB 743 and Local Practice
• SB 743 does not preclude local agencies from applying LOS in policies, codes, conditions of approval, etc.
Transportation Analysis of Development Projects

How things may end up under SB 743

CEQA (California Environmental Quality Act)
CMP (Congestion Management Program)
Local policies/practices

LOS
(except in IOZs)

VMT

LOS or VMT

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SB 743 Implementation

• OPR has issued several rounds of draft guidance

• In November 2017 OPR submitted latest draft for formal rule-making (6-8 months)

• OPR calling for phase-in period, with mandatory switch to VMT by January 1, 2020

• Several cities have already switched, others planning to switch soon
4. SB 743 Implications for VTA and Local Jurisdictions
VTA Perspective on SB 743

Key benefits:

• Streamline transit, bicycle, and pedestrian projects
• Promote/streamline TOD
• Help cities/counties align transportation analysis with community values

Some challenges and opportunities – e.g., consistency and transition
VTA Activities to Date on SB 743

2014 – First Half 2017:
• Getting informed and sharing information
• Gathering input from local jurisdictions
• Providing VTA input to OPR/state process

New - starting Fall 2017:
• Fostering discussion about how cities, County and VTA can work together on implementation
VTA Activities – Gathering/Sharing Information

Presentations to VTA Board Committees and Technical Advisory Committee Working Groups

Presentations to other audiences:
• MTC/ABAG, Grand Boulevard Initiative, SPUR SJ, Santa Clara County Planning Officials, CA Transit Association

Participation in regional-level working groups; webinars; workshops
Survey in Santa Clara County

- VTA web survey of its 16 local jurisdictions in Sept 2017
- 13 of 16 local jurisdictions, plus Caltrans, responded

Q1 Where is your agency at in regards to SB 743 and the LOS-to-VMT transition? (SELECT ONE)

- Switch before OPR guidelines: (1 agency)
- Switch start of phase-in: (3 agencies)
- Switch end of phase-in: (4 agencies)
- Don't know / no bandwidth: (5 agencies)
Suggested Topics based on Web Survey

- Guidelines for VMT
- Shared tools/resources
- Analysis across jurisdictions
- CEQA / CMP relationship
- VMT training, support, funding for implementation
- Example calcs, for recent projects
- Potential other metrics besides VMT and LOS
- Small/rural project analysis
CMP Guidance on LOS Analysis

• VTA has provided an established framework for conducting LOS analysis in a TIA Report
New Guidance for VMT

• VTA is planning to work with its local jurisdictions to develop guidance for VMT analysis
5. Next Steps and Key Take-Aways
VTA’s Goals and Objectives for LOS-to-VMT Transition

• **Goal**: Steer VTA through the LOS-to-VMT transition, and play a leadership role in guiding local jurisdictions

• **Objectives**:
  A. Take a leadership role
  B. Move county in overall progressive and pragmatic direction
  C. Reform VTA’s practices – focusing on CMA and CEQA Lead Agency roles
  D. Provide guidance on thresholds and methodology
VTA Process - End Results

- Understand context
- Consensus on VMT Modeling – Baseline and Thresholds
- Consensus on VMT Sketch Tools – Project VMT and Reductions
- Updated VTA CMP guidance:
  - 2019 CMP Document
  - VMT Analysis Guidelines *(NEW)* – specify how to analyze VMT
  - Interim Guidance on TIAs *(NEW)* – specify when/how to include VMT analysis in TIAs
- Updated VTA CEQA Lead Agency Practices
Considerations for Local Jurisdictions

- Who will steer the process?
- How soon to make the change?
- Fully shift to VMT, or retain LOS for some purposes?
- What VMT threshold?
- What city policies/practices will require updates?
- What action/approval will be required?
- Relationship to ongoing/upcoming planning efforts?
Next Steps in Santa Clara County

• Form ad hoc LOS-to-VMT working group
• Identify points of contact at each local jurisdiction *(both Transportation/Engineering and Planning)*
• Develop work plan and schedule for VTA/countywide efforts
• Bring updates to VTA Board Committees
• Explore key topics in-depth
• Work towards consistent methodology/guidance
• Local jurisdiction changes to policies/practices
Resources

Websites:
• OPR SB 743 site: http://www.opr.ca.gov/ceqa/updates/sb-743/
• VTA Congestion Management Program: http://www.vta.org/cmp
• City of San Jose VMT Transition: http://www.sanjoseca.gov/vmt
• Streetsblog (CAL, SF, LA)

Professional organizations:
• American Planning Association (APA)
• Institute of Transportation Engineers (ITE)
• Association of Environmental Professionals (AEP)

Other organizations:
• SPUR, TransForm, Grand Boulevard Initiative
6. Questions and Answers

During webinar: Use YouTube chat box

After webinar: Email Rob Swierk

robert.swierk@vta.org