Who we are

The Technology Transfer Program
Institute of Transportation Studies (ITS)
University of California, Berkeley

Where our funding comes from
Caltrans (DRI, Planning, Local Assistance, others)
OTS
Self-supporting programs
What Tech Transfer does

Training (online & around CA)

Conferences (national & international)

Publications and web resources

Technical assistance (TSA, PSA, etc)
We provide training, technical assistance, and resources:

Emphasis on innovation best practices lessons learned

For the practitioner in local, regional, and state agencies

transportation traffic engineering traffic signals infrastructure design pavement safety and work zones planning & funding project development
Traffic Safety Assessments (TSA)

- Funded by the California Office of Traffic Safety, through NHTSA
- 15 years
- Combining two experts: traffic engineering and enforcement
- Field site visit and staff interview
- Suggestions for improvement for enhancing traffic safety
Objective: Reduce crashes, injuries & fatalities

- Two experts for one+ day
- Available statewide, year-round
- Free to cities and counties
- Request must be initiated by public works, planning, or police department
- Specific safety issue must be identified in request
<table>
<thead>
<tr>
<th>Engineering</th>
<th>Enforcement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic operations</td>
<td>DUI</td>
</tr>
<tr>
<td>Access issues</td>
<td>Seatbelt usage</td>
</tr>
<tr>
<td>Pedestrian, school safety</td>
<td>Hit &amp; run</td>
</tr>
<tr>
<td>Signs, signals, markings</td>
<td>Speeding</td>
</tr>
<tr>
<td>Traffic control devices inventory</td>
<td>Red-light running</td>
</tr>
<tr>
<td>High-crash intersections</td>
<td>Strategic deployment</td>
</tr>
<tr>
<td>Sight distance</td>
<td>Traffic collision data</td>
</tr>
</tbody>
</table>
Requesting agency and contact information for staff

Available traffic-related information

Primary focus areas of the evaluation

Maps or aerial photographs

Form used by evaluators to establish contact with agency staff
Top 10 collision locations and top 5 collision corridors based on SWITRS data

Pedestrian and bicycle circulation

School circulation issues

Cut through traffic on residential streets

Evaluation of previously identified solutions and recently constructed improvements

Traffic signal timing and phasing
identified by law enforcement evaluator

SWITRS data or Crossroads if used by agency

Based on total number of crashes – not crash rates

Types of collisions and citations issued

Data sorted prior to site visit

Used during site visit to analyze locations

Used after site visit to prepare the final report
Begins with kick-off conference call

Engineer evaluator tours city to analyze high collision locations (and schools, if requested)

Law enforcement officer meets with agency officers

Exit meeting held on second day to report preliminary findings

Final report prepared based on exit meeting discussion
Compliance with CA MUTCD

- Upgrade markings
- Improved signage
- Positive traffic control/warning devices
- Crosswalk relocations or crosswalk removals
- Traffic calming treatments
TSA Bike Collision Counter Measures

- Provide on street striped bike lanes
- Encourage bicyclists to ride with traffic
- Colorized treatments to distinguish bike lanes
- Provide better markings at intersections
- Provide warning to drivers making turns
- Remove parking
- Establish Bike Boulevards
- Provide better crossings for bike paths
Focus on best practices and proven strategies tailored to meet the needs of the agency

Introduction
Evaluation Objective
Background
Collision Data Analysis
Traffic Engineering Evaluation
Traffic Enforcement Evaluation
Appendices
Guidelines
References
Pedestrian Safety Assessments (PSA)

- 6 years
- Two experts: traffic engineering and transportation planning
- Benchmarking analysis and phone interview
- Site visit and walking audit
- Suggestions for improvement for pedestrian safety
Enable CA communities to:

- Improve pedestrian safety at specific locations and citywide
- Create safe, comfortable, accessible, and welcoming environments for pedestrians
- Enhance walkability, livability, and economic vitality
Updates:

• Current practice
• Expanded references and resource list
• Enhanced pre-visit interview
• Enhanced benchmarking analysis
PSA Scope: Primary Focus

- Infrastructure
- Engineering
- Planning
- Policy
- Economic Vitality
• Phase 1: Pre-Visit
  – Data collection
  – Phone interview

• Phase 2: Site Visit
  – Walk audits
  – Preliminary recommendations

• Phase 3: Post-Visit
  – Final report
## Program, Practices, and Policies: Pre-Visit Interview

<table>
<thead>
<tr>
<th>Interview Topic</th>
<th>Subtopic</th>
<th>Suggested Interview Questions</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic calming programs</td>
<td></td>
<td>• Do you have a traffic calming program?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• How have you funded traffic calming projects?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Do your traffic calming efforts exceed the basic use of speed humps?</td>
<td></td>
</tr>
<tr>
<td>Engine</td>
<td></td>
<td>• Are your traffic calming efforts consistent with ADA requirements? What are your guidelines for new streets and developments?</td>
<td></td>
</tr>
<tr>
<td>Pedestrian volumes</td>
<td></td>
<td>• Do you routinely collect pedestrian volume data?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Do you require/request that pedestrian and bicycle volumes be counted as</td>
<td></td>
</tr>
</tbody>
</table>
TABLE 2-1: POMONA TRAFFIC COLLISIONS AND RANKINGS, 2009

<table>
<thead>
<tr>
<th>Type of Collision</th>
<th>Victims Killed and Injured</th>
<th>Ranking by Daily Vehicle Miles Traveled of 56 Cities</th>
<th>Ranking by Average Population of 56 Cities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fatal and Injury</td>
<td>823</td>
<td>19/56</td>
<td>30/56</td>
</tr>
<tr>
<td>Alcohol Involved</td>
<td>65</td>
<td>36/56</td>
<td>42/56</td>
</tr>
<tr>
<td>HBD (Had Been Drinking) Driver &lt; 21</td>
<td>8</td>
<td>26/56</td>
<td>32/56</td>
</tr>
<tr>
<td>HBD Driver 21 - 34</td>
<td>14</td>
<td>46/56</td>
<td>49/56</td>
</tr>
<tr>
<td>Motorcycle</td>
<td>33</td>
<td>7/56</td>
<td>15/56</td>
</tr>
<tr>
<td>Pedestrians</td>
<td>119</td>
<td>3/56</td>
<td>3/56</td>
</tr>
<tr>
<td>Pedestrians &lt; 15</td>
<td>9</td>
<td>32/56</td>
<td>38/56</td>
</tr>
<tr>
<td>Pedestrians 65+</td>
<td>38</td>
<td>2/56</td>
<td>1/56</td>
</tr>
<tr>
<td>Bicyclists</td>
<td>39</td>
<td>36/56</td>
<td>38/56</td>
</tr>
<tr>
<td>Bicyclists - 15</td>
<td>9</td>
<td>30/56</td>
<td>35/56</td>
</tr>
<tr>
<td>Speed Related</td>
<td>127</td>
<td>27/56</td>
<td>37/56</td>
</tr>
<tr>
<td>Nighttime (9:00pm - 2:59am)</td>
<td>62</td>
<td>23/56</td>
<td>33/56</td>
</tr>
<tr>
<td>Hit and Run</td>
<td>52</td>
<td>21/56</td>
<td>30/56</td>
</tr>
<tr>
<td>DUI Arrests</td>
<td>410</td>
<td>N/A</td>
<td>14/56</td>
</tr>
<tr>
<td>Composite</td>
<td>31/56</td>
<td></td>
<td>39/56</td>
</tr>
</tbody>
</table>

Source: California Office of Traffic Safety, [www.ots.ca.gov/Media_and_Research/Rankings/default.asp](http://www.ots.ca.gov/Media_and_Research/Rankings/default.asp)

TABLE 2-2: TOP PEDESTRIAN-VEHICLE COLLISION INJURY LOCATIONS

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Number of Pedestrian Injury Collisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pomona Avenue &amp; Cypress Street</td>
<td>5</td>
</tr>
<tr>
<td>Pomona Avenue &amp; Palmer Avenue</td>
<td>5</td>
</tr>
<tr>
<td>San Fernando Road &amp; Chevy Chase Drive</td>
<td>5</td>
</tr>
<tr>
<td>Porter Street &amp; Colorado St.</td>
<td>5</td>
</tr>
<tr>
<td>Broadway &amp; Pomona Avenue</td>
<td>5</td>
</tr>
<tr>
<td>Pacific Avenue &amp; State Route 134 Ramps</td>
<td>5</td>
</tr>
<tr>
<td>Pomona Avenue &amp; Glencoe Road</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: California Highway Patrol
Notes: This list is based on number of collisions and does not adjust for vehicle or pedestrian volumes (exposure).
Midblock collisions were assigned to the nearest intersection.
City of Sample
Pedestrian Safety Assessment
February 30, 2012

Revision St. between Light Rail Station and Big Oak Ave.

NOTES:
PSA Site Visit

Mark-Up Aerials with Recommendations

- Eliminate turn point
- Lighted (activated) signs
- Triple-A marking pattern
- Fair lane or relocate sign

Huntington Dr
• Finalize focus area recommendations
• Draft report
• Submit draft report to Tech Transfer
• Tech Transfer sends to local agency and OTS
Finalize site-specific improvement suggestions.
• Tech Transfer is owner, applicant receives a copy
• In-house reference
• Can be incorporated into General Plan, Pedestrian Master Plan, etc.
• Grant applications (SRTS/SR2S, Regional CFP)
PSA Case Studies

School Area
Transit Station / Commercial District

PSA Case Studies

Pedestrian-Scale Lighting Where Missing

Consider Road Diet with Bike Lanes
PSA Case Studies

Major Bus Corridor / Transit Agency Lead

Relocate Bus Stops to Far Side
Challenging Crossing

- Eliminate Turn Pocket
- Trim Tree or Relocate Sign
- Consider Allowing U-Turn Upstream
• Elements for success
  – Concurrent with other planning effort (General Plan update, ped/bike plan)
  – Site improvements can be linked to upcoming grant cycle (safe routes, etc)
  – Participation from multiple departments and decision makers
  – Wheelchair user attends site visit
• Evaluators can help focus efforts
• Concept graphics are key motivator (vision / funding)
• Update benchmarks to keep up with current trends/research
• Coordinate with other ped safety efforts at state/federal level
• Follow up/evaluation is needed
Bicycle Safety Assessments (BSA)

- New!
- Two experts: traffic engineering and transportation planning
- Benchmarking analysis and phone interview
- Site visit and field audit
- Suggestions for improvement for bicycling safety
• Companion to PSA guidebook
• Best practices
• Technical committee of experts
• Completed PBSA pilot for City of Stockton
• Will do 4 for this grant cycle
OTS Prioritization of Sites

- Largest population centers with the worst safety problems
- Prefer population over 25,000
- Top 10 worst lists per OTS Collision Rankings
- Total number of fatalities/injuries
- No prior TSA/PSA studies
OTS has funded (as of Sept 2013):

• 292 total PSA+TSA studies since 1999
• 207 TSA studies since 1999
• 82 PSA studies since 2007
• 240 CA local agencies served since 1999
• 3 PSA/PSAP integrated studies
• 1 PBSA pilot study
• About 22-23 studies per grant cycle
Future OTS Proposal

Next proposal to include:

• More TSAs
• More PSAs
• More PSA/PSAP Integration
• More BSAs
• More RSAs (Rural Safety Assessment)
• Programmatic Evaluation of PSA
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