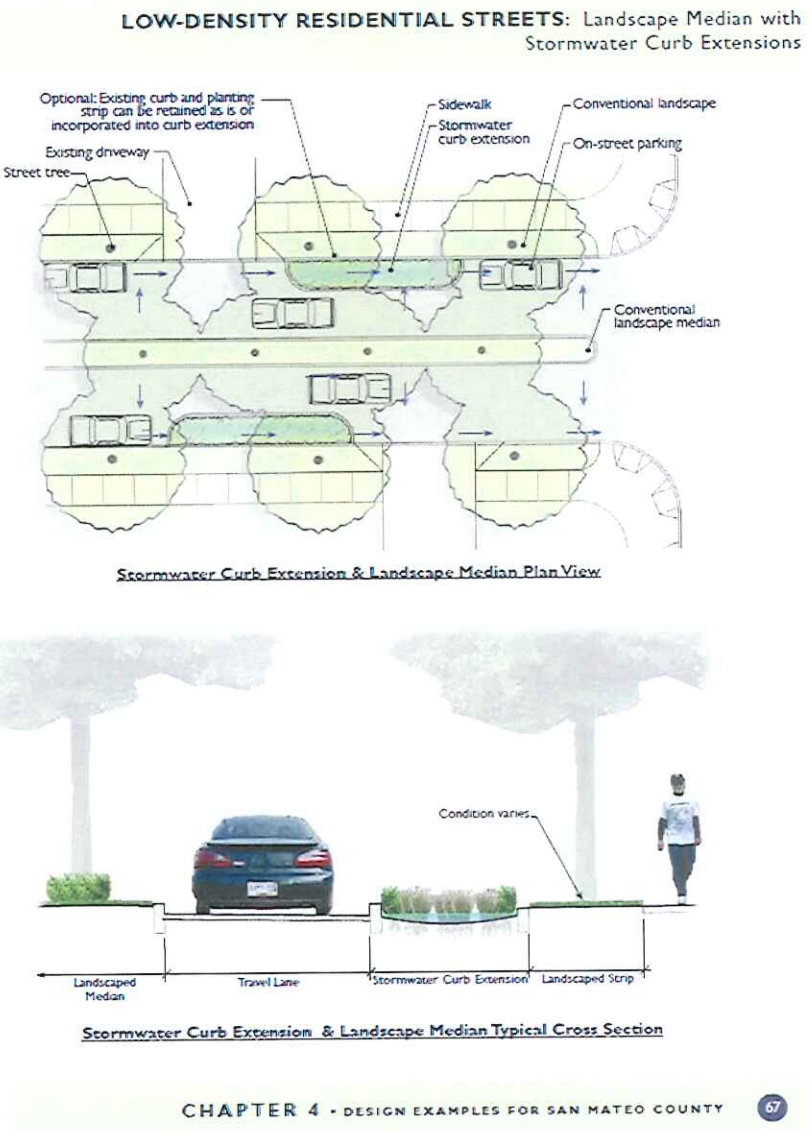
Street Design Standards

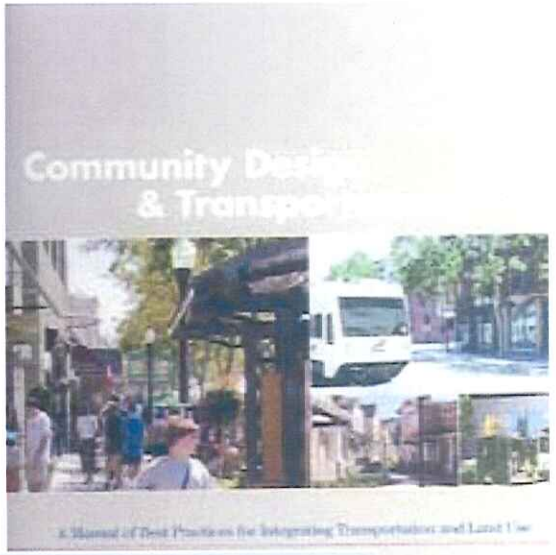
- Connection with Level of Service standards
- By street classification
- By land use
- By neighborhood/district
- Context sensitivity

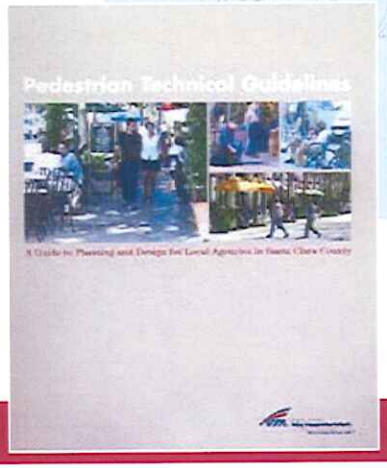


Source: San Mateo County Sustainable Green Streets and Parking Lots Design Guidebook

Complete Streets Practice in Santa Clara County

- Member Agencies and VTA have been working together to develop a balanced, multimodal transportation network
- Examples:
  - Community Design and Transportation (CDT) Program , adopted in 2003
  - Technical Design Guidelines for Pedestrian and Bicycle Facilities, adopted in 2003 and 2007
  - Multimodal Design Practices and Principles for Roadway Improvements, adopted in 2009
  - Development Review Program, established in 1995.





Case Study: Ocean Park Boulevard, Santa Monica

- Safety concerns
  - Proximity to neighborhood business district and schools
  - Community meeting identified need to reduce motorists speeds and improve bike/ped crossings

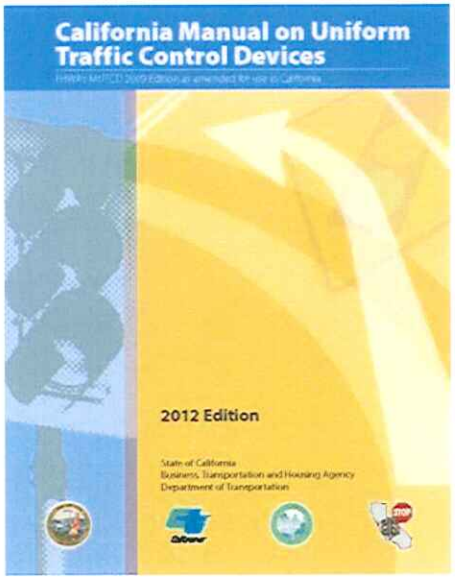
Source: City of Santa Monica
from National Complete Streets Coalition

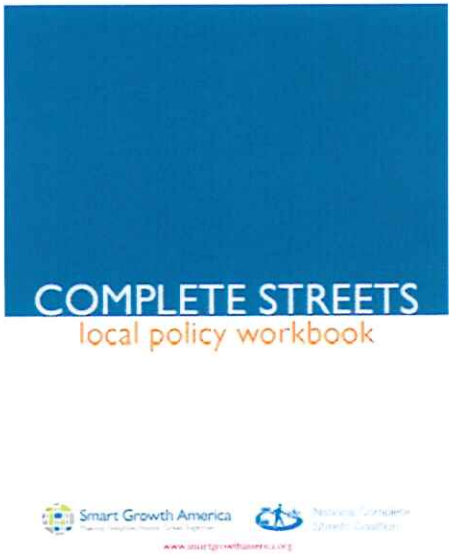
Case Study: Ocean Park Boulevard, Santa Monica

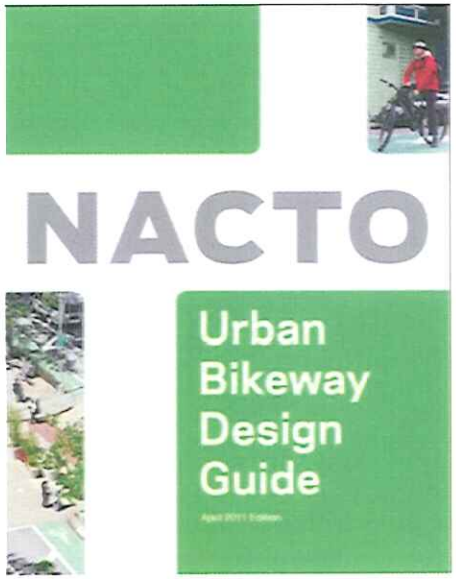
- Pilot project
  - Road diet: 4 to 2 lanes with center turn lane, bike lane
  - Crashes reduced 65%
  - 85 percentile speed now 27 mph
- General Plan policy language supports
  - *high-quality bicycle facilities…with the aim of increasing the number of people who use bicycles for everyday transportation*

Source: City of Santa Monica
from National Complete Streets Coalition

Steps to Implementing Complete Streets Policies

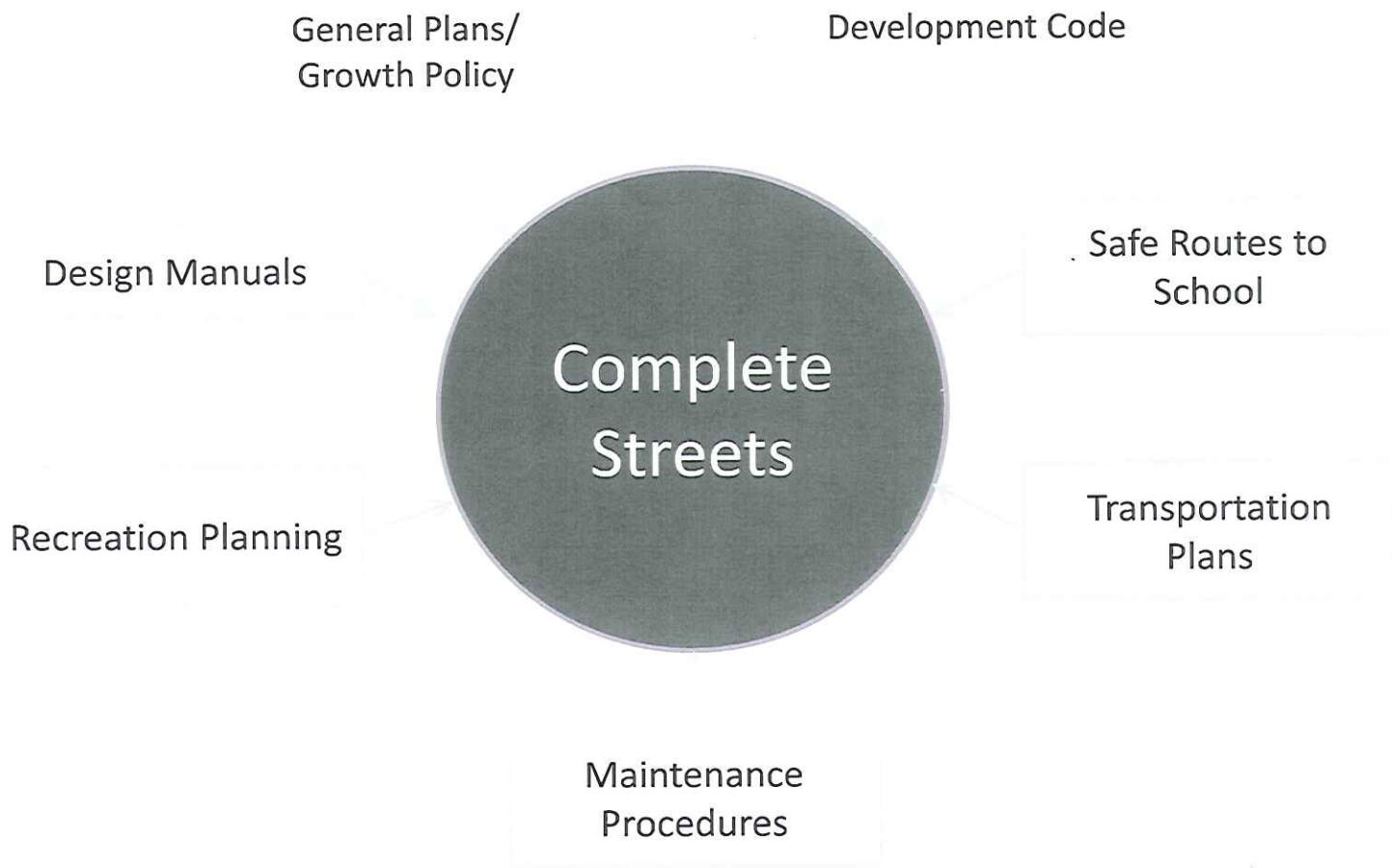






David Parisi, Parisi Associates Transportation Consulting

Implementation



Disciplines Involved in Developing Complete Streets Plans

- Planning
- Zoning
- Public Works
- Public Health
- Neighborhood Traffic Calming Programs
- Transit Agencies
- Environmental/Green Streets
- Safety Campaigns/Safe Routes to School

Example: Baldwin Park, CA

Administrative Policy (2011)

*(A) Advisory Group. The City will establish an **inter-departmental advisory committee** to oversee the implementation of this policy …*

*(B) Inventory. The City will maintain a **comprehensive inventory** of the pedestrian and bicycling facility infrastructure … and will prioritize projects to eliminate gaps in the sidewalk and bikeways networks…*

Transportation Infrastructure Policy 5.3-I-3

Coordinate the implementation of Complete Streets concepts, as appropriate, with ongoing transportation and congestion relief programs such as the

- *TDM Program*
- *Street Smarts Traffic Safety Program*
- *Residential Traffic Calming Program*
- *Safe Routes to School Program*
- *TRAFFIX Program*

Outreach and Political Support

- Advisory Committees
- Public/Private Partnerships
  - Integrate business community
  - Document economic and health benefits
- Elected officials
- Public support
  - Safe Routes to School
  - Transit, biking, and walking advocates

Example: Citrus Heights, CA

City of Citrus Heights
INCORPORATED JANUARY 1, 1997

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- News
- Volunteer Opportunities
- Current Openings
- Upcoming Events
- Holiday Schedule
- Photo Album
- Press Releases
- Community Newsletter
- E-Notifier
- Spotlight On Services
- Traffic Counts
- Open Bids, RFPs and RFQs

What's New » Citrus Heights Complete Streets » Complete Streets Projects

Complete Streets Projects

Complete Streets Philosophy

The City of Citrus Heights incorporates the complete streets philosophy into all construction projects. Mobility for all users of the transportation network - including not just autos but also transit users, bicyclists, and pedestrians of all ages and abilities - is an important issue for city residents. While the high volume of regional traffic passing through Citrus Heights benefits residents by increasing business activity, decisions for roadway improvements must give equal consideration to non-auto users of the roadways.

Level of Service

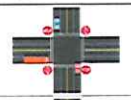
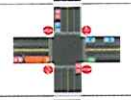
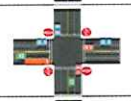
LOS conventionally used to evaluate motor vehicle travel speed and delay

LEVELS OF SERVICE
for Multi-Lane Highways

Level of Service	Flow Conditions	Operating Speed (mph)	Technical Descriptions
A		60	Highest level of service. Traffic flows freely with little or no restrictions on maneuverability. **No delays**
B		60	Traffic flows freely, but drivers have slightly less freedom to maneuver. **No delays**
C		60	Density becomes noticeable with ability to maneuver limited by other vehicles. **Minimal delays**
D		57	Speed and ability to maneuver is severely restricted by increasing density of vehicles. **Minimal delays**
E		55	Unstable traffic flow. Speeds vary greatly and are unpredictable. **Minimal delays**
F		<55	Traffic flow is unstable, with brief periods of movement followed by forced stops. **Significant delays**

Source: 2000 HCM, Exhibit 21-3, Speed-Flow Curves with LOS Criteria for Multi-Lane Highways

LEVELS OF SERVICE
Unsignalized Intersections
Four-Way Stop

Level of Service	Flow Conditions	Delay per Vehicle (seconds)	Technical Descriptions
A		<10	**Very short delays**
B		10-15	**Short delays**
C		16-25	**Minimal delays**
D		26-35	**Minimal delays**
E		36-50	**Significant delays**
F		>50	**Considerable delays**

Source: 2000 HCM, Exhibit 17-22, Level of Service Criteria for AWSC Intersections

Level of Service

- Peak period vehicle LOS is often the only LOS metric used
- Favors roadway expansion, which can negatively affect:
  - The environment
  - Community character
  - Smart growth
  - All other modes of travel

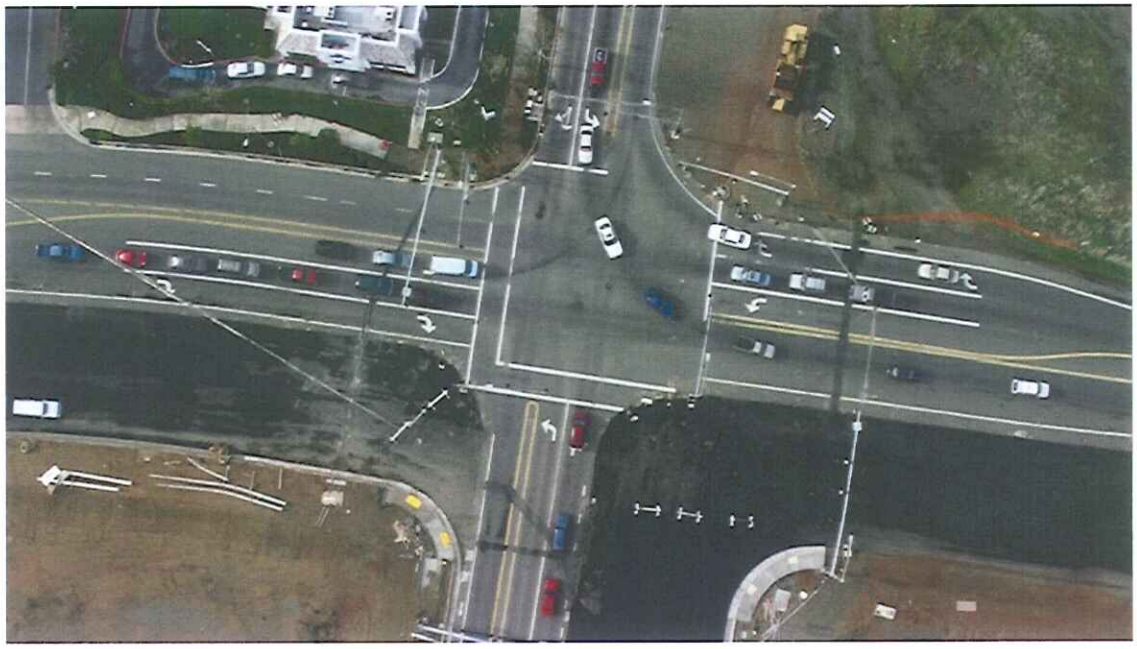
Source: National Complete Streets Coalition

Multimodal Level of Service

- Balanced approach that can account for a wider range of users:
  - Motor vehicles
  - Public transit
  - Bicycle
  - Walking
  - Other
- MMLOS indicators can respond to users' preferences and expand range of solutions

Multimodal Level of Service

For example, travelers may accept higher auto delays for increased convenience, comfort and improvements for other modes



MMLOS Guidelines

- Numerous guidelines recently developed or under development
- Methods vary from highly technical and data intensive to simpler with limited data needs
- Examples include …

Motor Vehicles

- Average travel speed
- Average delays
- Number of stops per mile

Or…

- Automobile Trips Generated (ATG)

Public Transit

- Frequency of service
- Travel speed
- Availability
- Reliability
- Accessibility
- Passenger load
- Perceived safety and security
- Transit stop amenities
- And more …

Bicycle

- Network connectivity
- Type of facility
- Width of facility
- Traffic interaction
- Number and type of crossings
- Topography
- Sense of security
- Wayfinding
- And more…

Walking

- Type of facility
- Width of facility
- Pedestrian density
- Perceived separation from traffic
- Street crossing widths
- Topography
- Sense of security
- Amenities
- And more …

Case Study: Lancaster, CA

- Unpleasant downtown environment
  - 4-lane road with travel speeds of 40-50 mph
  - Difficult crossings

Source: City of Lancaster
from National Complete Streets Coalition

Case Study: Lancaster, CA

- Street improvements
  - Road diet: 4 to 2 lanes with center 'rambla', widened sidewalks, street trees, etc.
  - Removed 6 traffic signals
  - Public investment of $10.4M

Source: City of Lancaster
from National Complete Streets Coalition

Case Study: Lancaster, CA

- Safety benefits
  - Collisions reduced from 3/month to less than 1/month
- Economic benefits
  - Private investment since 2006 estimated at $125M
  - Sales tax revenue increased by 26%
  - 40 new businesses opened in 2010-2012
  - Estimated 800 new jobs
  - 100 new housing units within 1 block
  - 4% vacancy

Next Steps

Source: Tacoma Mixed-Use Centers Complete Streets Design Guidelines

VTA Schedule for OBAG

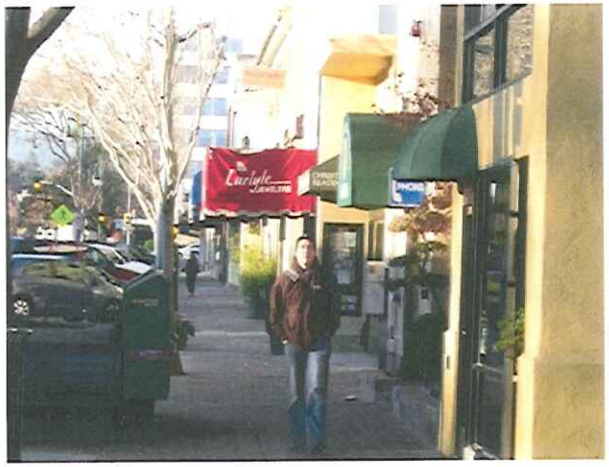
2012

- September - Adopted OBAG: Local Program Development – Structure and Formula
- November– Board Adoption of OBAG Local Program Development – Criteria
- December– Call for Projects

2013

- April– Advisory Committee Review/Approval of Project Applications
- May– VTA Board Adoption of Projects for Programming

Questions?



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