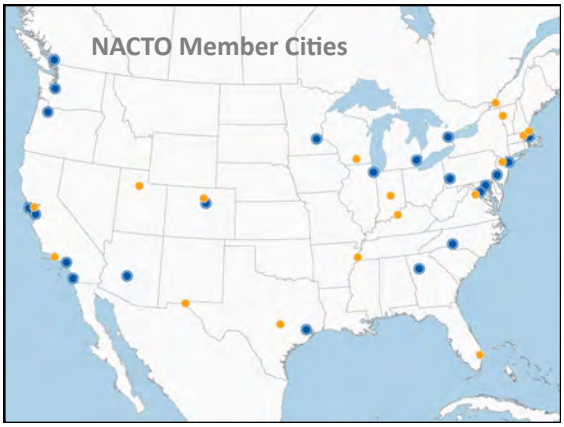
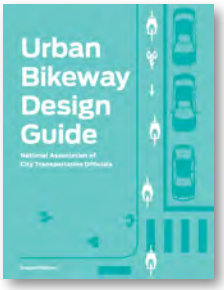
Santa Clara Valley – San José
Street Design Workshop

March 12-13, 2015

National Association of City Transportation Officials

NACTO Member Cities





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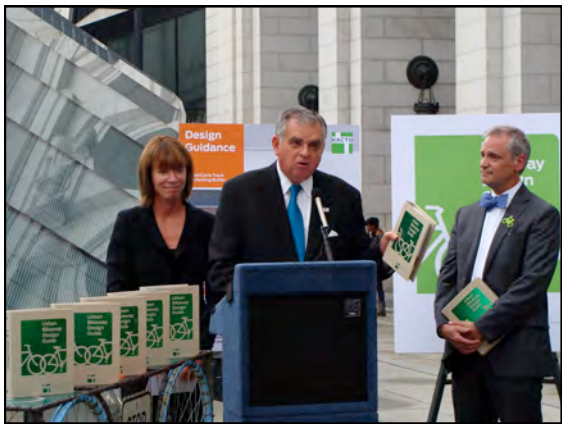
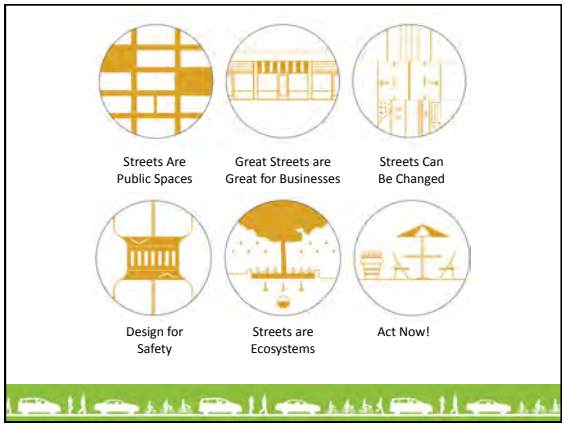
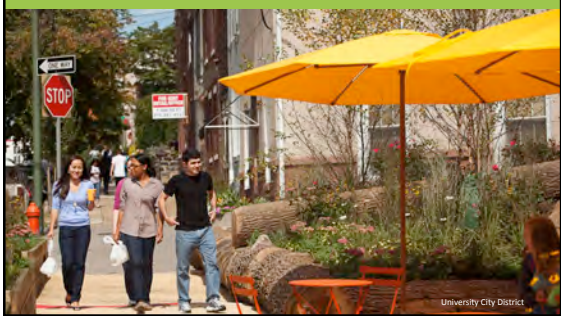


The Urban Street Design Guide

Mid-block Crossing

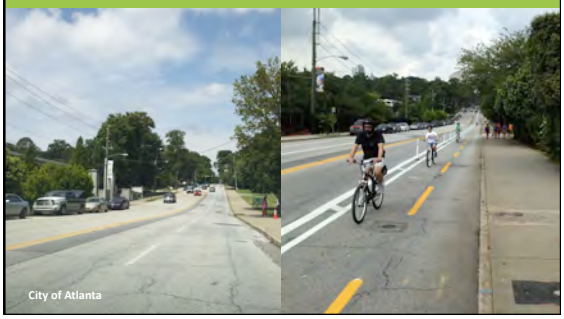


Streets Are Public Spaces

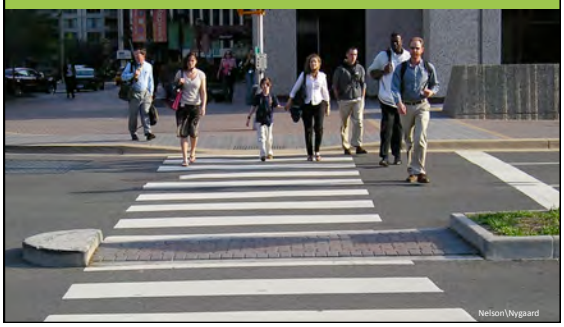


Great Streets are Great for Business

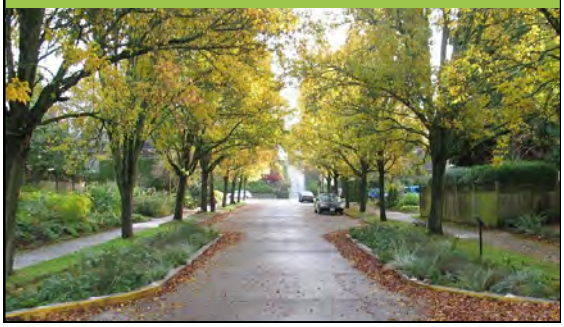
Streets can be Changed



Design for Safety



Streets are Ecosystems



Act Now!

EXISTING CONDITIONS

INTERIM REDESIGN

RECONSTRUCTION

STREETS

Downtown 1-Way Street
Downtown 2-Way Street
Downtown Thoroughfare
Neighborhood Main Street
Neighborhood Street
Yield Street
Boulevard

Residential Boulevard
Transit Corridor
Green Alley
Commercial Alley
Residential Shared Street
Commercial Shared Street

STREET DESIGN ELEMENTS

Lane Width
Sidewalks
Curb Extensions
- Gateway
- Pinchpoint
- Chicane
- Bus Bulbs

Vertical Speed Control Elements
- Speed Hump
- Speed Table
- Speed Cushion

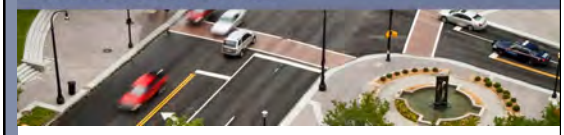
Transit Streets
- Dedicated Curbside/Offset Bus Lanes
- Dedicated Median Bus Lanes
- Contra-Flow Bus Lanes
- Bus Stops

Stormwater Management
- Bioswales
- Flow-Through Planters
- Pervious Strips
- Pervious Pavement

INTERIM DESIGN STRATEGIES

Moving the curb
Parklets
Temporary Street Closures
Interim Public Plazas

INTERSECTIONS



Principles
Major Intersections
Intersections of Major and Minor Streets

Raised Intersections
Mini Roundabout
Complex Intersections

INTERSECTION DESIGN ELEMENTS

Crosswalks and Crossings
- Crosswalks
- Conventional Crosswalks
- Midblock Crosswalks
- Pedestrian Safety Islands

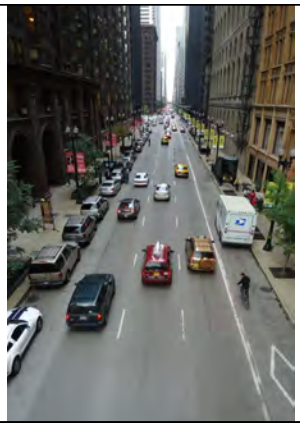
Corner Radii
Visibility/Sight Distance

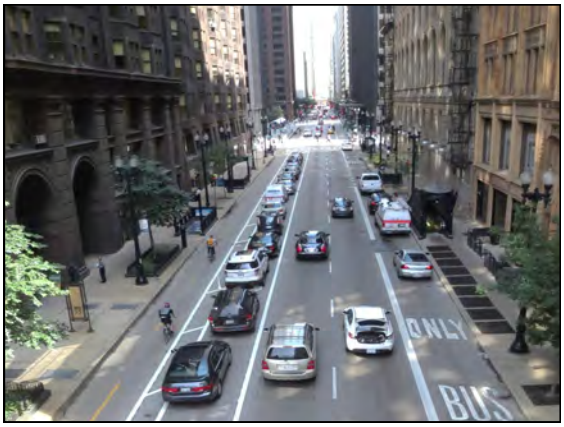
Traffic Signals
- Signalization Principles
- Leading Pedestrian Interval
- Split-Phasing
- Signal Cycle Lengths
- Fixed vs. Actuated Signalization
- Coordinated Signal Timing

DESIGN CONTROLS

Design Speed
Design Vehicle
Design Hour

Design Year
Performance Measures
Functional Classification





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States
California
Colorado
Delaware
Massachusetts
Minnesota
Tennessee
Utah
Washington

Cities
Arlington, VA
Atlanta
Austin
Baltimore
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Boston
Boulder
Brownsville, TX
Charlotte
Chattanooga
Chicago
Davis
Denver
El Paso
Fort Lauderdale
Hoboken
Indianapolis
Louisville
Memphis
Minneapolis
Nashville
Newark
New York
Oakland
Philadelphia
Pittsburgh
Phoenix
Portland, OR
Portsmouth, NH
Providence
Rochester, NY
Saint Paul
Salt Lake City
San Diego
San Francisco
San Mateo
Seattle
Somerville, MA
Spokane, WA
Tacoma, WA
Traverse City, MI
Washington, DC

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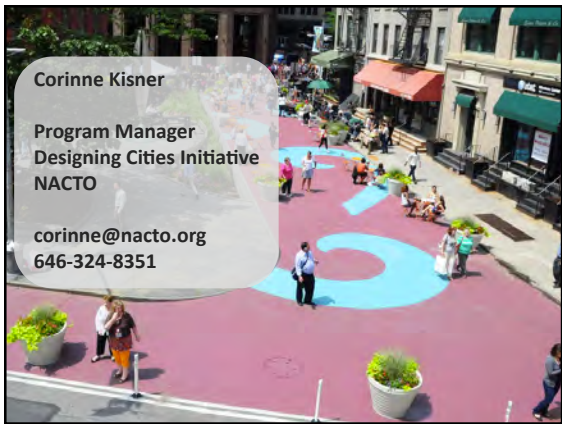
Corinne Kisner
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Designing Cities Initiative
NACTO
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Santa Clara County – San José
Street Design Workshop

Changing Streets, Changing Cities

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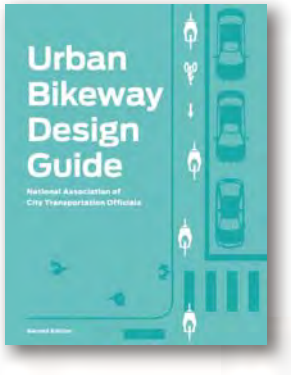

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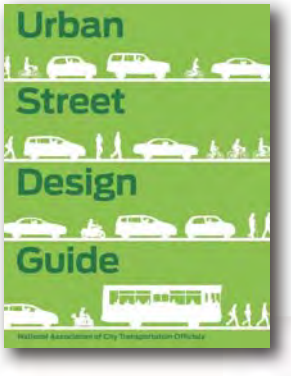

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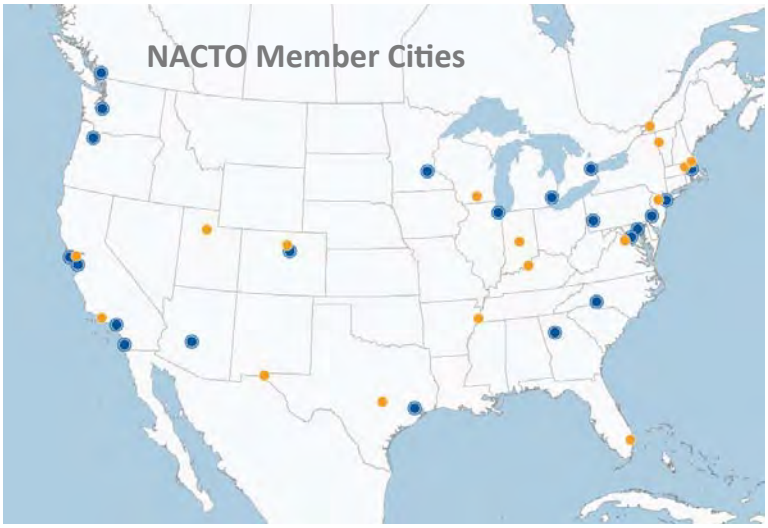

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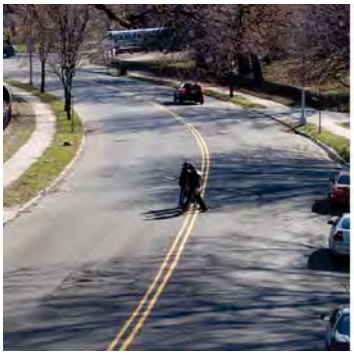

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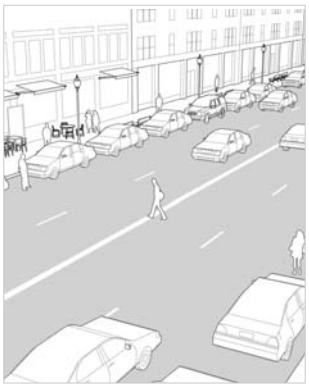

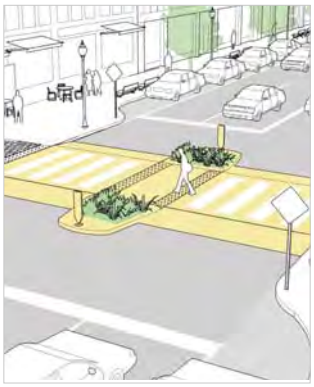

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The Urban Street Design Guide

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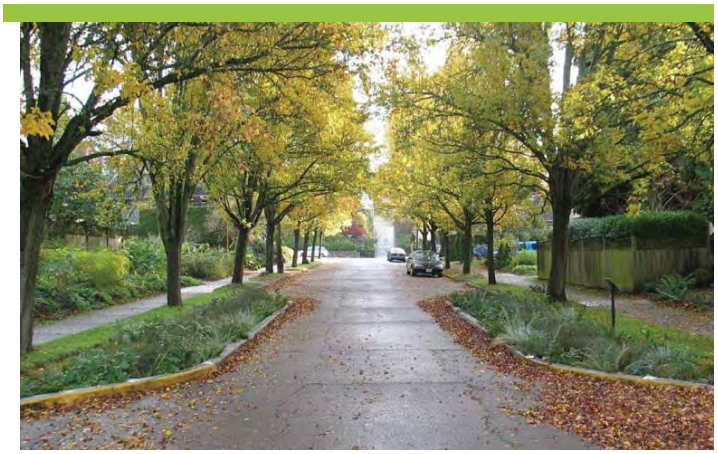

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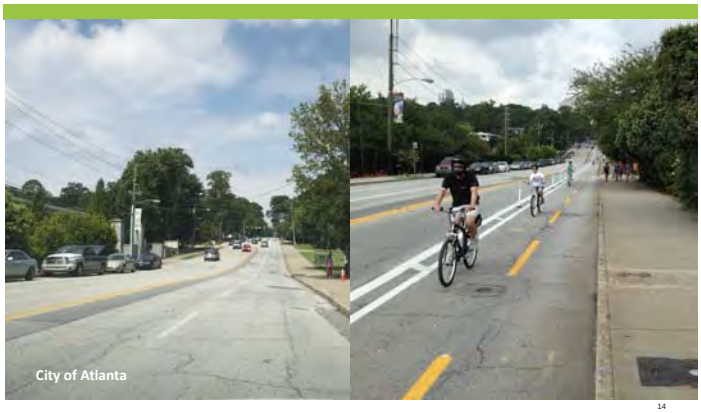

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Act Now!

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Design for Safety

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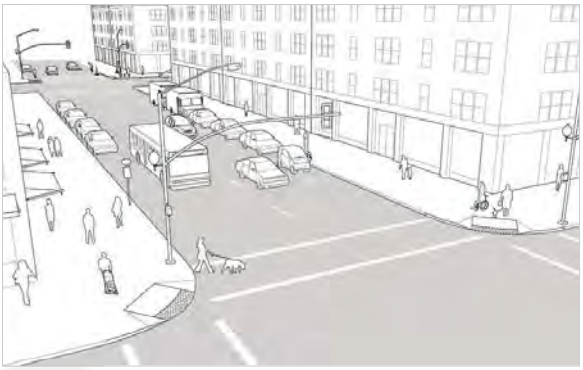
City design guides



EXISTING CONDITIONS

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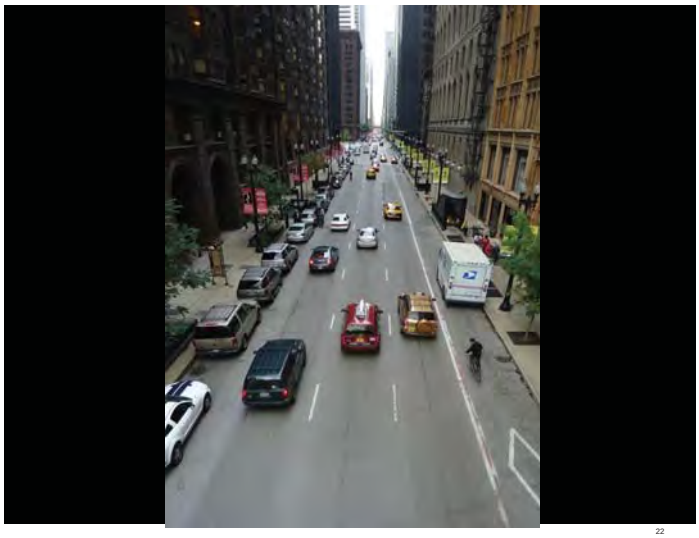
INTERIM REDESIGN



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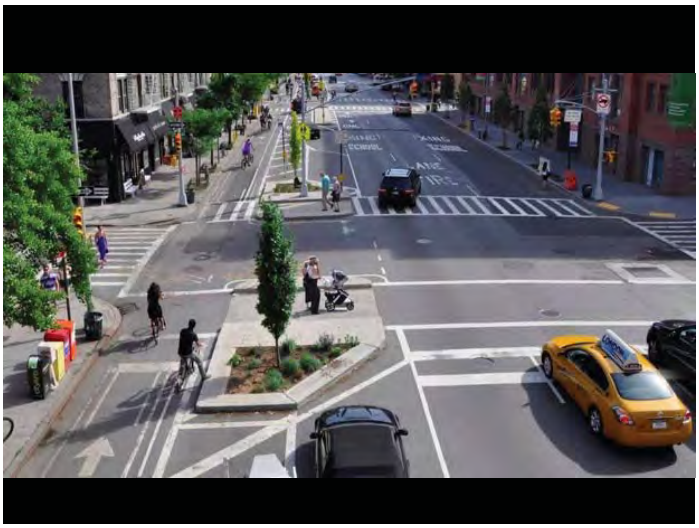
RECONSTRUCTION



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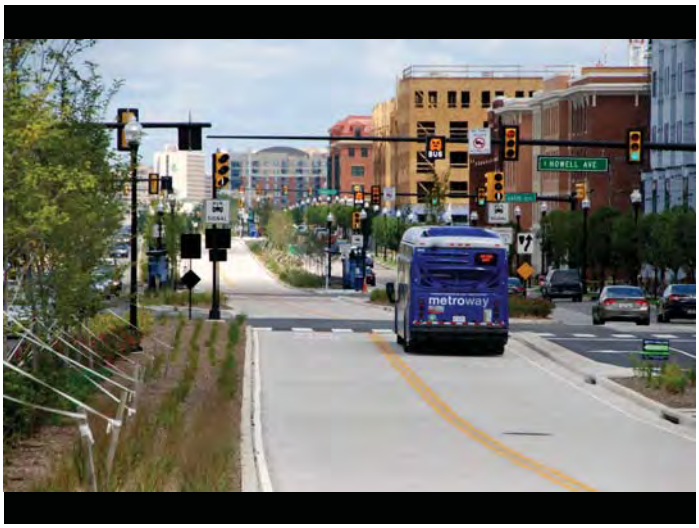

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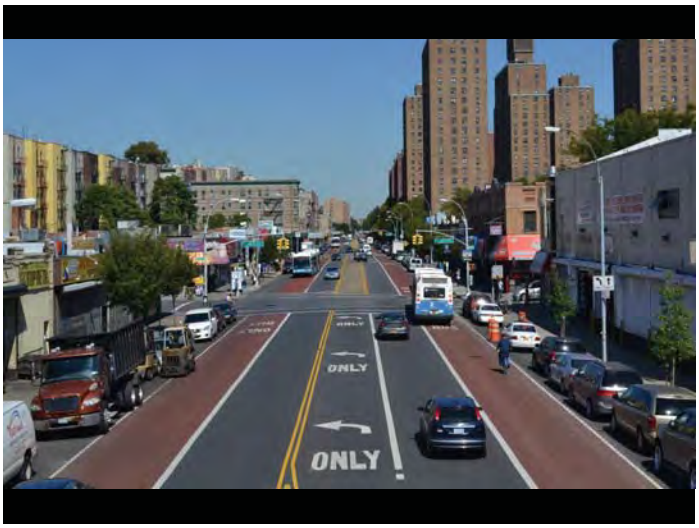

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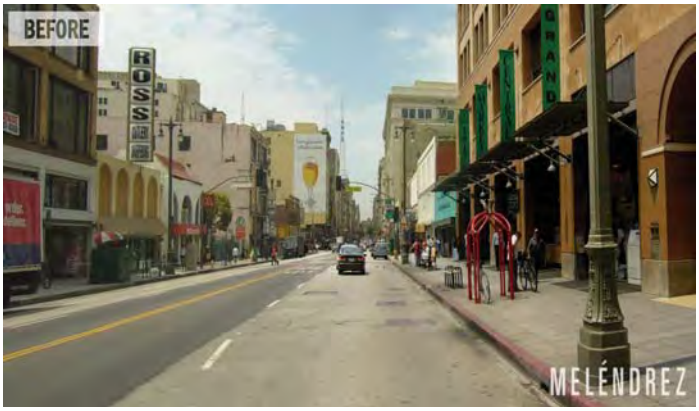

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Austin
Baltimore
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Boulder
Brownsville, TX
Charlotte
Chattanooga
Chicago
Davis
Denver
El Paso
Fort Lauderdale
Hoboken
Indianapolis
Louisville
Memphis
Minneapolis
Nashville
Newark
New York
Oakland
Philadelphia
Pittsburgh
Phoenix
Portland, OR
Portsmouth, NH
Providence
Rochester, NY
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Measuring Success:

Using data wisely for a healthier, wealthier, more equitable city

1

Old Speed Paradigm -> Roadway LOS

Level of Service (LOS)	Unsignalized Intersection Control Delay (sec/veh)	Signalized Intersection Control Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10 - ≤ 15	> 10 - ≤ 20
C	> 15 - ≤ 25	> 20 - ≤ 35
D	> 25 - ≤ 35	> 35 - ≤ 55
E	> 35 - ≤ 50	> 55 - ≤ 80
F	> 50	> 80

Source: 2000 HCM

Arterial Class	I	II	III
Level of Service	Average Travel Speed (MPH)		
A	≥ 35	≥ 30	≥ 25
B	≥ 28	≥ 24	≥ 19
C	≥ 22	≥ 18	≥ 13
D	≥ 17	≥ 14	≥ 9
E	≥ 13	≥ 10	≥ 7
F	< 13	< 10	< 7

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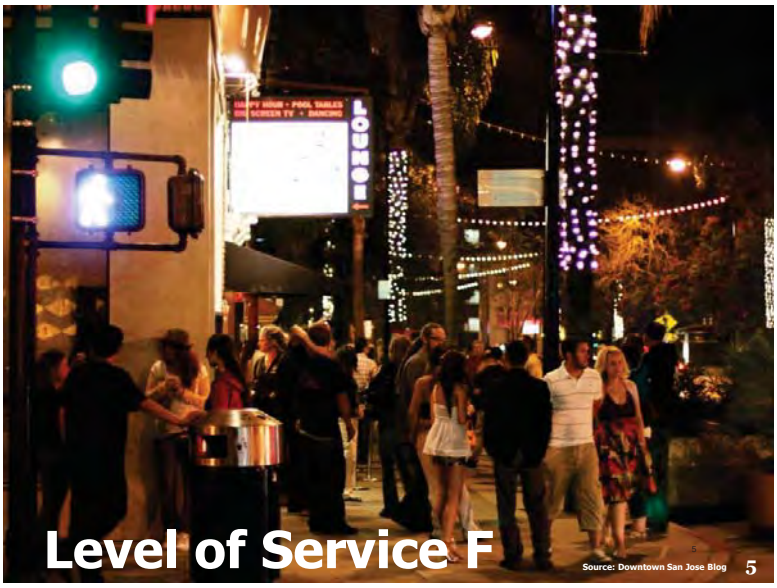


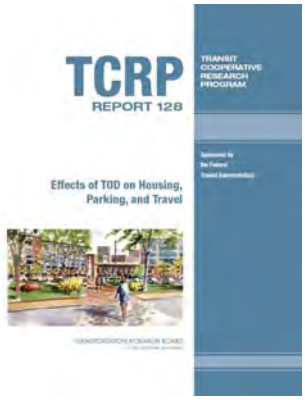
What's important depends upon perspective

Traffic engineer:	F	A
Economist:	A	F

6

What's wrong with LOS?

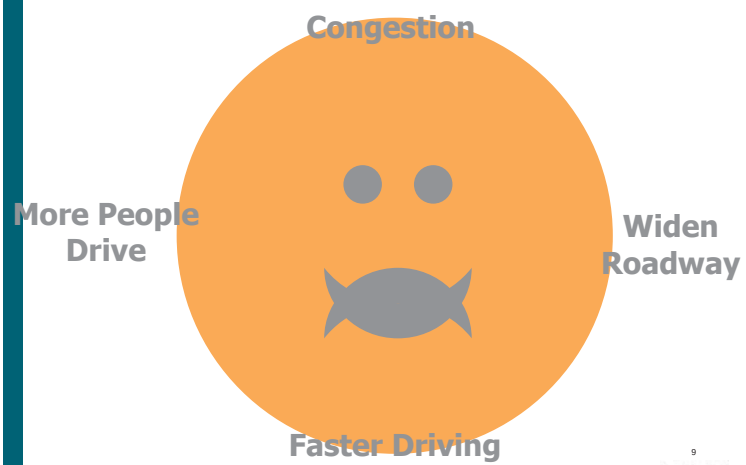
- To be "conservative," transportation analyses typically use ITE trip generation rates, data from isolated, single-use projects with no access except by car.
- TODs typically generate ~50% fewer vehicle trips than predicted by ITE. ("Effects of TOD on Parking, Housing and Travel," TCRP 128, 2008)
- Guidelines focus on localized traffic impacts and ignores regional impacts.



LOS *Increases* Congestion

- To mitigate a negative transportation impact:
  - Reduce density
  - Widen roadways
  - Transportation Demand Management
  - Move the project to a more isolated location with less existing traffic congestion
- Result: Less walking, biking and transit. Mitigation becomes a self-fulfilling prophesy

Induced and Latent Demand



What Get Measured Get Done

How do we use Performance Measures?

- Improving efficiency of system operations
- Managing a given road or corridor
- Prioritizing funding
- Measuring impact of new development
- Imposing development fees
- Reporting to Congestion Management Agency
- Reporting on achievement of various goals

What is transportation for?

- Transportation is not an end in itself
- It is merely a means by which we support individual and collective goals and objectives

Measure what matters

Why not Consider…

- Economic Development
  - Job creation
  - Real estate value increase
  - Retail sales
- Quality of Life
  - Access to jobs
  - Access to shopping
  - Residential property value impact
- Social Justice
  - Do benefits accrue equitably?
  - Are investments spread equitably?
- Ecological Sustainability
  - VMT per capita (=CO_2, NO_x, runoff, etc.)
  - Land use/transportation connection

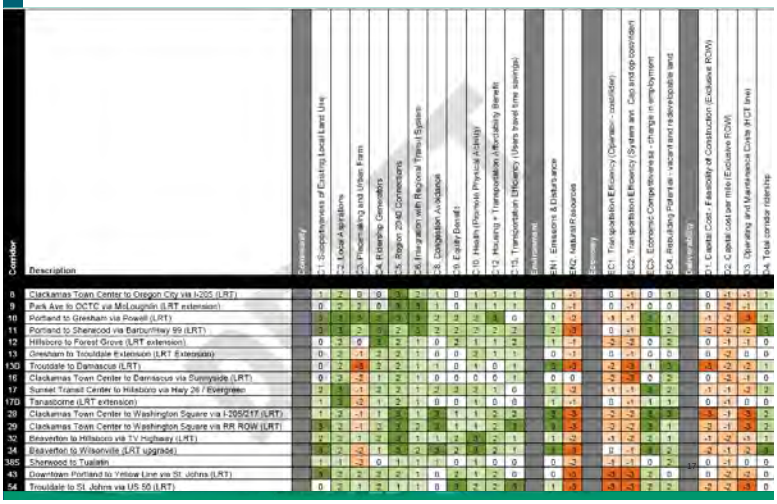
25 Evaluation Criteria

Community	Environment	Economy	Deliverability
C1: Supportiveness of Existing Land Uses C2: Local Aspirations C3: Placemaking and Urban Form C4: Ridership Generators C5: Support of regional 2040 Growth Concept C6: Integration with Regional Transit System *(Addressed in White Paper)* C7: Integration with Other Road Uses C8: Congestion Avoidance Benefit C9: Equity Benefit C10: Health (Promotion of Physical Activity) C11: Safety and Security *(Addressed in White Paper)* C12: Housing + Transportation Affordability Benefit C13: Transportation Efficiency (User Travel Time Savings)	EN1: Reduction in Emissions and Disturbance EN2: Risk of Natural Resource Disturbance EN3: Risk of 4(f) Resource Disturbance *(Addressed in White Paper)*	EC1: Transportation Efficiency (Operator – cost per rider) EC2: Transportation Efficiency (System annualized capital & operating cost per rider) EC3: Economic Competitiveness (Change in employment served) EC4: Rebuilding/ Redevelopment Opportunity (vacant and redevelopable land)	D1: Total Project Capital Cost (Exclusive & Non-Exclusive ROW Options) D2: Capital Cost Per Mile (Exclusive & Non-Exclusive ROW Options) D3: Operating & Maintenance Cost D4: Total Corridor Ridership D5: Funding Potential

Multiple Account Evaluation (MAE)

- Adopted from United Kingdom
- New Approach To Transport Appraisal (NATA)
- Multiple "benefit accounts" considered
- Criteria selected based on local conditions/values

MAE Matrix



Applying the MAE

- Organized into three "accounts" that correspond to the outcomes-based RTP evaluation approach:

Case Study: Santa Monica

Process

- Identify local values
- Identify long list of performance measures
- Refine into short list:
  - Assess today's conditions
  - Predict future conditions
  - Evaluate projects
  - Conduct EIRs
- Create tools and gather data
- Establish targets and thresholds
- Report back to public and Council
- Adopt impact fee

The Long List

Measure	Cost/Time Consumption	Implementation	EIR	Project Review	Corridor Review	Report Card	Travel Model
MANAGEMENT							
•Relative travel times by mode	Medium	Can be modeled; see WeHo traffic model. Can also be collected through data collection. Transit travel times can be automated in GPS.	√	√	√	√	√
•Person capacity – walking, bike, transit, auto, parking, bike parking	Medium - Heavy	This is a GIS/Excel type function that can be included if there is survey data available. Can be modeled. This needs to be further defined.	√?		√		√?
•Transit LOS: productivity, farebox return, delay, reliability	Medium - Heavy	This will take extensive model development if we want to get to this level in the demand model. Direct ridership modeling would be another option and would require less data/development time. Transit LOS could also be developed and monitored separate from the model in an Excel spreadsheet. BBB already does a basic collection of this info, and full transit LOS data may be available in upcoming GPS reporting from BBB. Seattle uses transit LOS in an annual GIS report card map, focusing on transit speed and frequency. SF uses transit LOS in their EIRs	√	√	√	√	√
•Neighborhood spill-over	Medium	Either traffic volumes or driver behavior (speed, etc)	√			√	
Congestion	Light	The sustainability report card currently measures intersection LOS. Congestion is also indirectly measured in the relative travel times by mode and the person capacity analysis above. (There is community resistance to using intersection LOS.) Adjust significance thresholds if used for EIRs.	√	√	√	√	√

Start with Transportation Principles

- **Measure Success**
- **Management**
- **Streets**
- **Quality**
- **Public Space**
- **Environment**
- **Health**
- **Affordability**
- **Economy**
- **Equity**
- **Safety**
- **Public Benefits**

Vary targets by Context

Creating a Shortlist

- For each principle, a long list of potential measures – and tools for measuring
- Next step: Short list:
  - Shortest list of measures that captures Santa Monica values
  - Minimize data collection costs
  - Maximize clarity
- Some measures, like per capita Vehicle Miles Traveled, capture many values: Greenhouse gases, congestion, air quality, etc.

Santa Monica: Application

- Main Street

FUNCTION	CONTEXT ZONE	Minimum	Desirable	Preferred	Measured
Transit					
Secondary	N'hood Commercial	≥-1	≥-0.5	≥+1	-0.8
Auto					
Secondary	N'hood Commercial	<1.2	<0.8	>0.6	0.75
Pedestrian					
Primary	N'hood Commercial	B	A	A	B

- Result: OK to slightly degrade auto QOS to improve transit and pedestrian QOS. Signal prioritization OK, but not dedicated transit lane.
- Goal: Bring all measures into *balance*

Tools and Data

- GIS mapping
- Transportation Demand Management reporting data
- Big Blue Bus GPS data
- Public perception surveys
- Traffic counts

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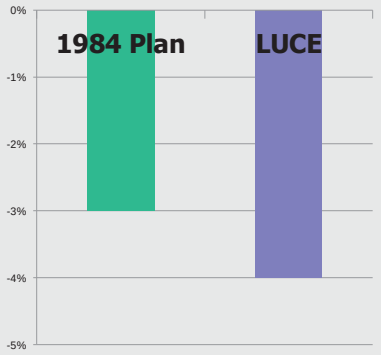
Results: Delay from Previous Tools

Achieves major outcome goals: Reduce VMT

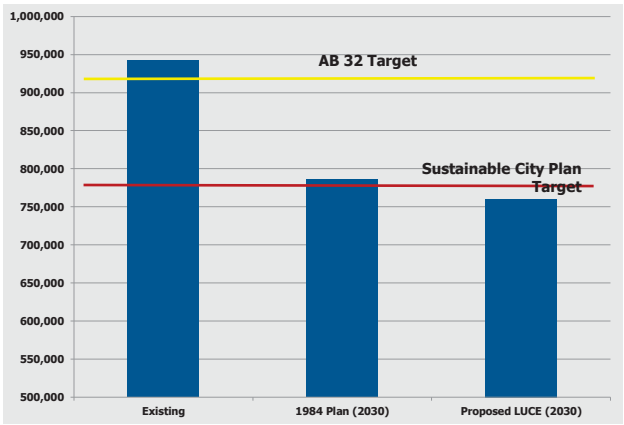
- 4% decrease in per capita Vehicle Miles Traveled for proposed LUCE
- 33% improvement in per capita VMT reduction compared to 1984 Plan.



"Per capita" includes population and employment

Reduced delay from new approach

Results: Achieves GHG Reduction Goals



Best practice

- Focus on outcomes.
- Ensure your local values are reflected and quantified. Include the triple bottom line.
- Use available or easily collectable data.
- Focus on citywide or regional impacts: don't make things a lot worse for everyone in order to make things a little better for a few.
- MMLOS can be bad for transit, biking and walking if misapplied.
- Focus on quality, not crowding.
- For congestion, focus on per capita Vehicle Miles Traveled.

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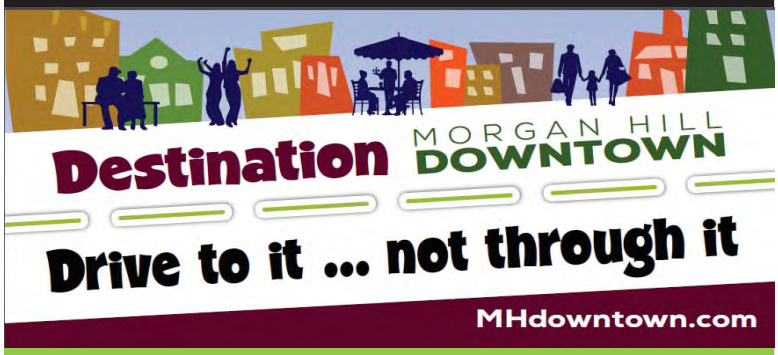
City of Morgan Hill
Placemaking Initiative
Complete Street Pilot Project



Downtown Placemaking Investment Strategy

History of Monterey Road

- Served as Highway 101 until 1982
- Main north/south transportation corridor
- Also serves as Morgan Hill's Downtown "Main Street"

History of Road Narrowing Discussion

- 30 + year discussion
- 2011 Streetscape Project – Extensive community outreach
- 2014 Placemaking Initiative
  - To make Downtown the most walkable, bike-friendly, urban, family oriented, and transit oriented neighborhood in Morgan Hill

Current Conditions

Butterfield Boulevard

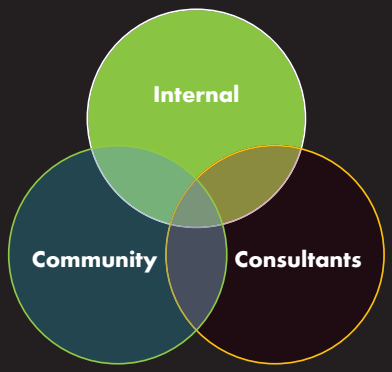
- Alternate north/south corridor (east of Monterey)
- Extension opened in 2013
- 45 mph speed limit
- Has excess capacity

No north/south corridor west of Monterey

Community Engagement

- Strategic/focused process
- High level commitment of significant resources
- Combination of traditional and social media outlets

Collaborative Approach



The Team

Consultants

- Alta Planning + Design
- Harris & Associates
- Street Plans

The Team

Internal

- Public Works
- Economic Development
- Community Development
- Communications and Engagement
- Fire
- Police

Community Engagement

Planning /Reviewing Alternatives

- Stakeholder consensus meetings
- Business owner meetings
- Public safety meeting
- Residents meeting
- Creative Placemaking Symposium
- City Council check-in
- Weekend demonstration
- Demonstration survey
- Business survey

The Team

Community

- Chamber of Commerce
- Downtown Association
- Residents
- School District
- VTA

Complete Street Objectives

The pilot project is intended to gauge if a lane reduction will:

- Improve livability and economic vitality
- Enhance pedestrian environment
- Accommodate bicyclists safely
- Reduce noise and air pollution
- Create attractive, thriving and vibrant community gathering places
- Foster a safe and inviting experience for all
- Preserve mobility for those accessing businesses, schools, services, transit and other key destinations

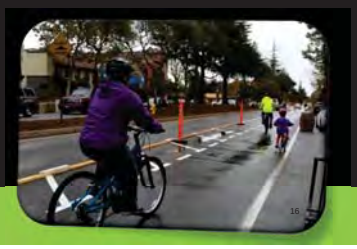
Weekend Demonstration



- Created two alternatives
- Logistical test 10/25/14 & 10/26/14
- Incredible community involvement

Recommendation 6 month trial

- February 2015 until July 2015
- One – lane each direction for vehicles
- Buffered bike lane each direction
- Continuous monitoring
- Formal evaluation of performance criteria and reports to City Council
  - ✓ 3 months
  - ✓ 6 months
- Final Report



Community Engagement

Response to weekend demonstration

- 789 surveys collected (hard copy and online)
- 1536 survey comments
- Hundreds of comments through various social media outlets
- Emails
- Comments through website

Find us on Facebook

Nextdoor

Constant Contact

Evaluation Criteria

16 Performance Measures
- Safety
- Multimodal Mobility
- Vibrancy
- Economic Vitality

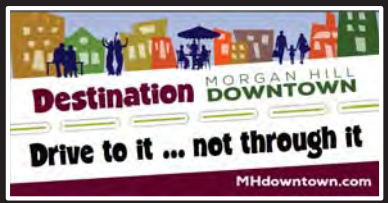
Three Review Periods

Single Complete Street Index

Community Opinion

54% of respondents would like to proceed with a six month trial

Drive to it... not through it



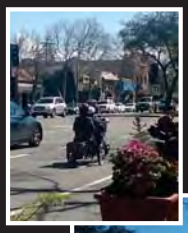
Cost

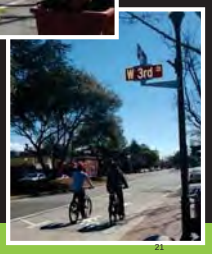
Alta Planning + Design Contract	$ 75,000
Traffic Control and Materials during Weekend Event	
6 Month Pilot Program:	$176,000
Total:	$251,000

What's Next?

- Continue with data collection
- Monitor/compile community feedback
- Present findings to City Council at 3 and 6 months
- City Council decision at end of pilot

Lessons Learned...so far





- Community engagement is paramount and never ending
- It's not about the street
- Hard to keep focus off bike lane
- Important to have key stakeholders involved with delivering the message
- Community engagement is paramount and never ending...

City Council's Role

- Willingness to make a bold decision
- Patience with the differing community opinions
- Support for testing the concept
- Make final decision