Defining and Measuring Success: Integrating Livability into Transportation Decision Making

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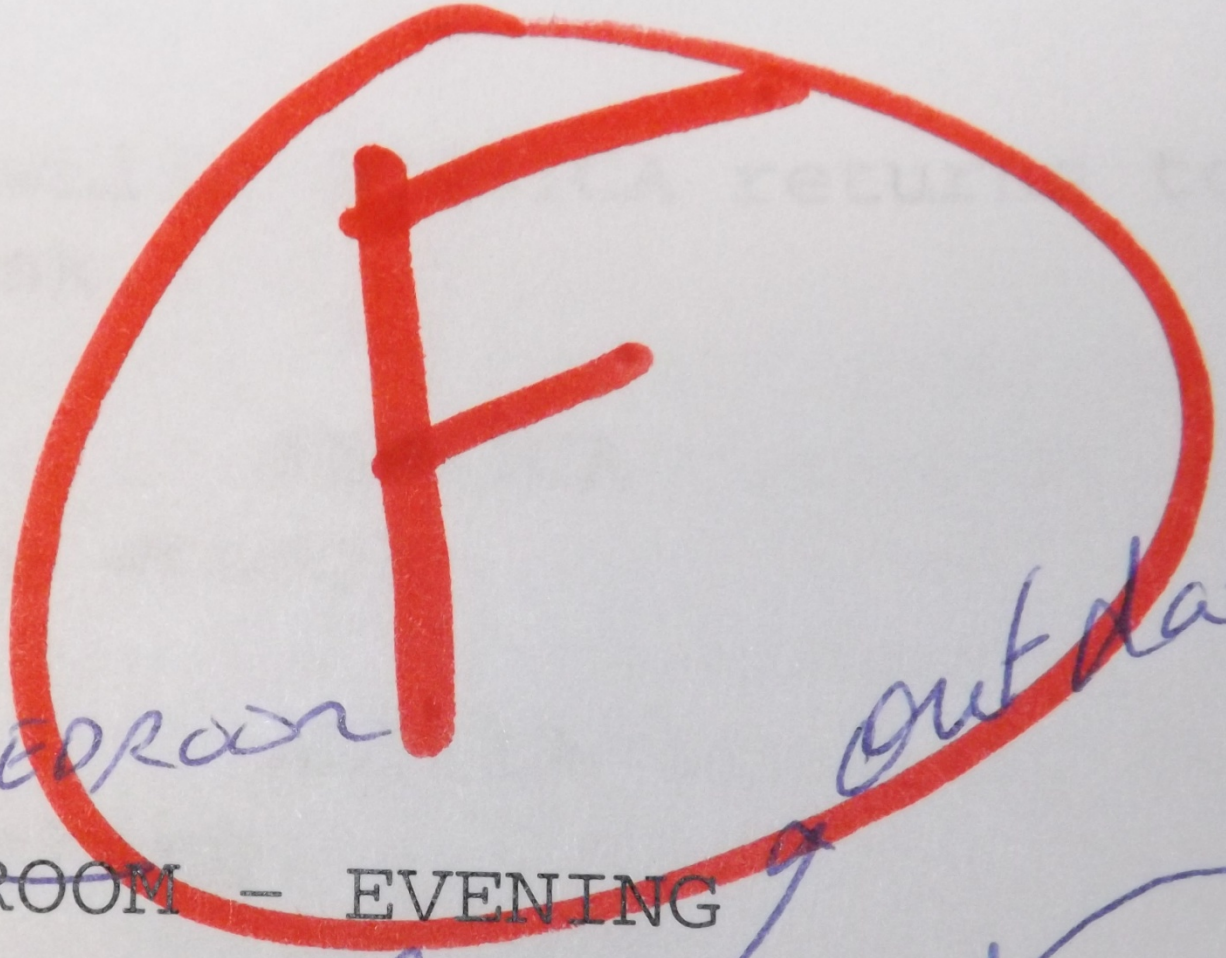
NELSON NYGAARD

Old Speed Paradigm → Roadway LOS

LOS	Average delay in seconds per vehicle	Description of motorist perception
A	< 10	Free-flow traffic: "Good" LOS
B	10.1 – 20	Reasonable free-flow
C	20.1 – 35	Stable but unreasonable delay begins to occur
D	35.1 – 55	Borderline "bad" LOS
E	55.1 – 80	"Bad" LOS: long queues
F	> 80	Unacceptable: very high delay, congestion

Source: Reid Ewing



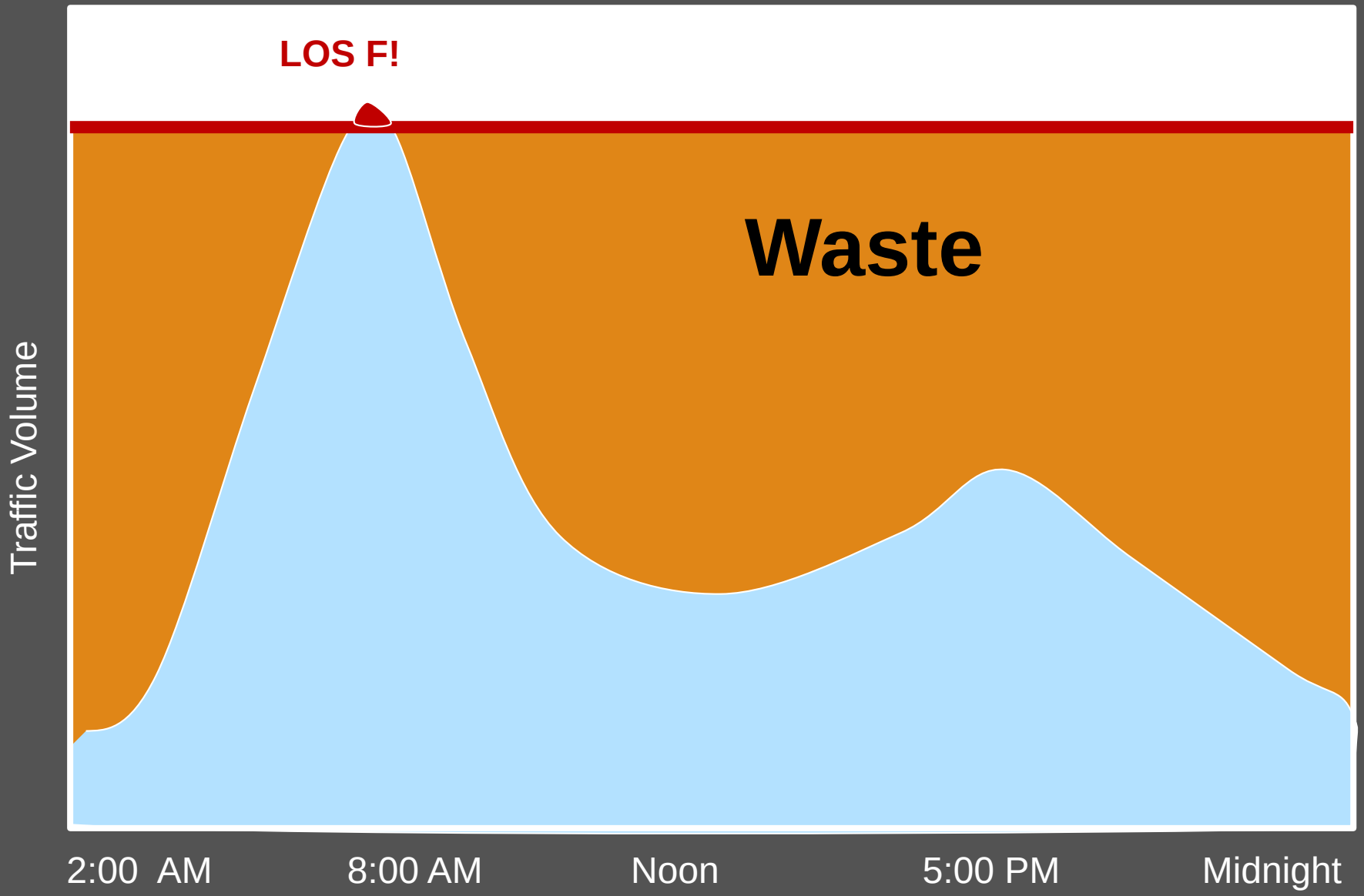
ia

IN:

ALICIA'S ~~ROOM~~ - EVENING

IA, a Mexican American teen, out of
room. She slams the door and throws
~~which is~~ covered with worn purple

Traffic Economics



Level of Service A

Level of Service F

Source: Neighborhoods.org

What's important depends upon perspective

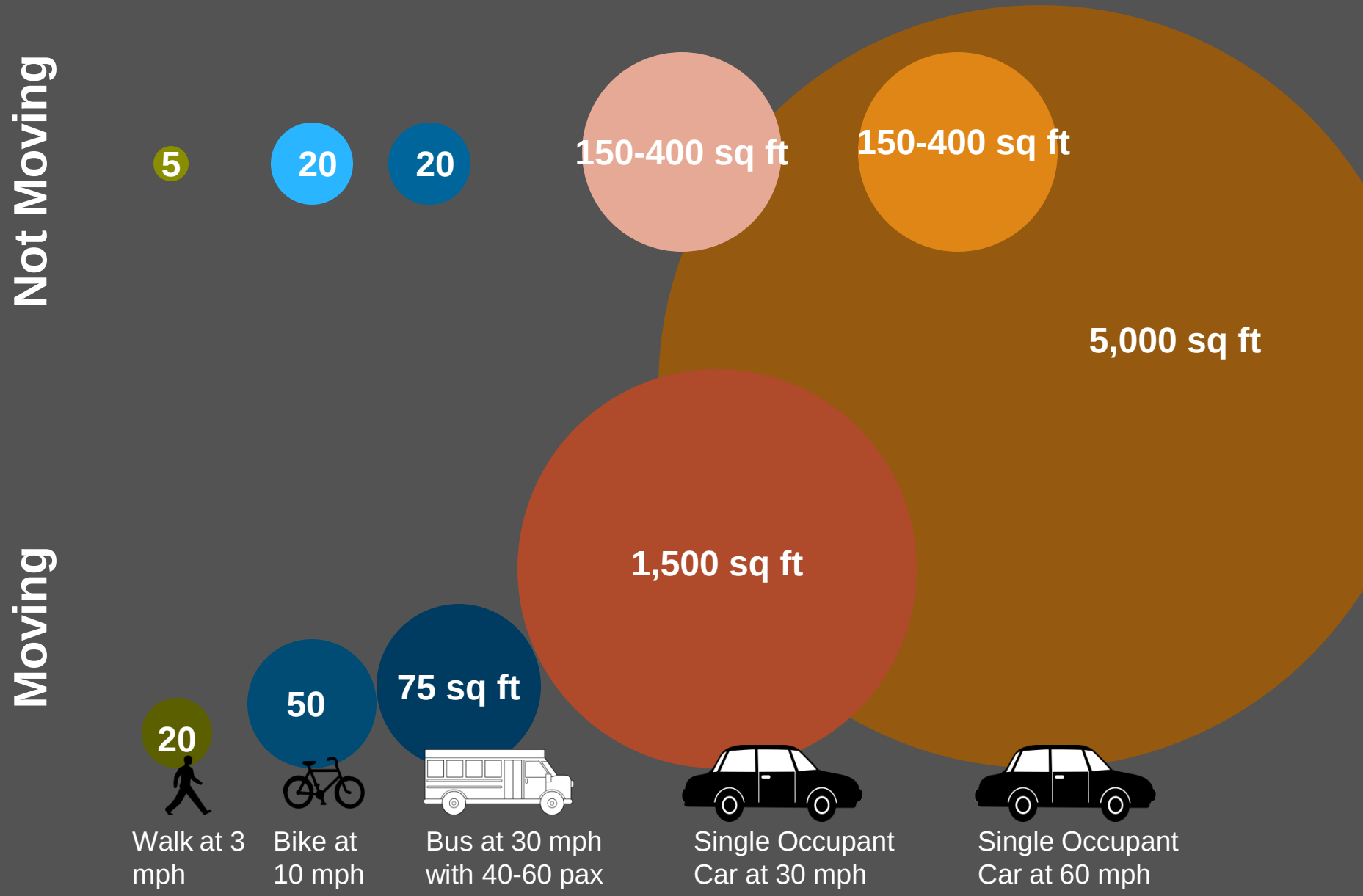
Traffic engineer:	**F**	**A**
Economist:	**A**	**F**

Problem 1: Last One In

A → D

D → E

Problem 2: Vehicle Delay, Not Person Delay



Adapted from infographic by Matthew Blackett/Spacing.ca with data from Victoria Transport Policy Institute

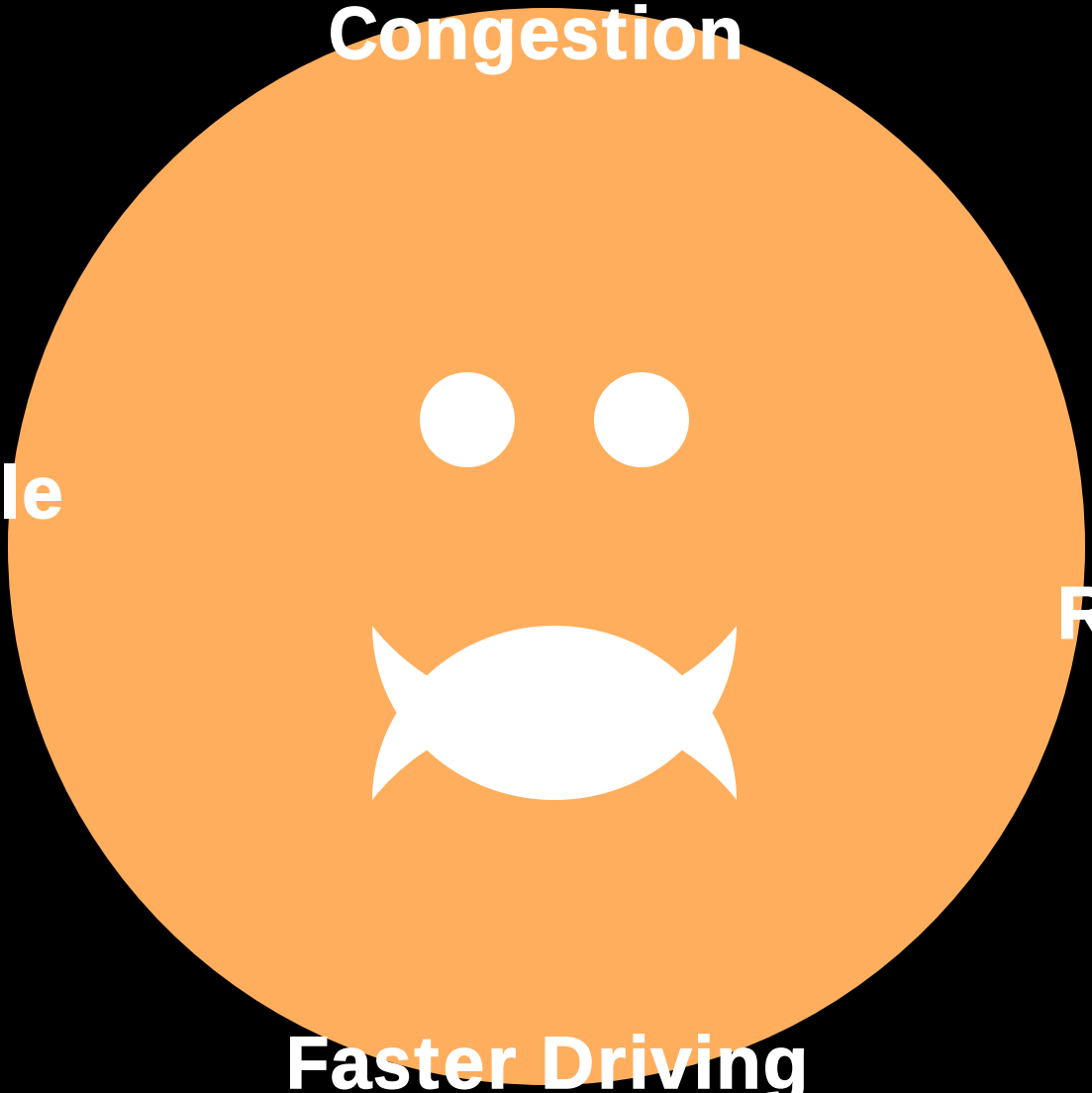
Problem 3: Other Modes are the Problem

Problem 4: Mitigations – Shrink the Project?

Problem 5: Mitigations – Move the Project?

Problem 6: Mitigations – Widen the Road

Induced and Latent Demand



Overreliance on LOS is

Creating the Problems

It was intended to solve

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

Process

- Identify local values
- Identify long list of performance measures
- Refine into short list:
  - Rely on existing or readily available data
  - Shortest list that speaks to all values
- Different metrics for different tasks:
  - Development review
  - Corridor study
  - Intersection management
- Create tools and gather baseline data
- Establish targets and thresholds

Start with Transportation Principles

- Public Health
- Accessible Services
- Social Equity
- Safety
- Prosperity
- Greenhouse Gases
- Water Quality
- Air Quality
- Livability
- etc.…

Vary targets by Context

Street Network

City of Santa Monica
Land Use and Circulation Element

- **Boulevard** — Regional transportation corridor with continuous mixed use and commercial land uses. Provides access for all forms of transportation, but emphasizes transit and walking. Regional auto traffic is accommodated here in order to minimize regional traffic on parallel streets.
- **Special Streets** — Unique and ceremonial streets requiring special consideration, such as the Third Street Promenade
- **Commercial: Downtown** — Provides access for all transportation and supporting downtown.
- **Commercial: Neighborhood** — Provides access for all transportation and supporting neighborhood retail.
- **Avenue: Major** — Serves regional automobile trips and provides access for all modes of transportation. Designed to discourage regional auto traffic from using Secondary or Minor Avenues.
- **Avenue: Secondary** — Distributes auto trips onto Minor Avenues and Neighborhood Streets, often serving regional bicycle trips by providing signalized crossings at Boulevards and Major Avenues.
- **Avenue: Minor** — Serves local auto and bicycle trips.
- **Avenue: Industrial** — Minor street serving industrial area.
- **Neighborhood Street** — Provides access primarily to abutting uses. Autos travel slowly enough to stop for people in the street.
- **Shared Street** — Serves as area where autos travel slowly enough to mix safely with people walking or bicycling. May not be wide enough to accommodate separate zones for people walking, bicycling, parking or driving.
- **Parkway** — Serves as linear park incorporating continuous landscaping, recreational bikeways and pedestrian paths.
- **Pathways** — Pedestrian-only streets
- **Bikeway - Lane/Path/Bicycle Boulevard** — Bicycle lanes, bicycle paths and streets designed so that cars and bicycles can mix comfortably.
- **Transit Investment** — Planning underway for rail service, including subway and light rail with regional connections.
- **Highway** — Serves regional and interstate auto traffic.
- **Alley** — Provide local property access.
- Light Rail Stop
- Major Bus Stop

Updated 10-30-2009

0 0.25 0.5 MILES

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Use targets and thresholds

- 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*

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For More Information

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