

# MOBILITY: VISION & GOALS

## 2008 San Diego General Plan --

### Guiding Principles (Mobility)

- ❑ Compact and walkable mixed-use villages
- ❑ Integrated regional transportation network of walkways, bikeways, transit, roadways and freeways that efficiently link communities and villages to each other, and to employment centers



# MOBILITY: VISION & GOALS

## 2008 General Plan – Mobility Element (Goals & Policies)

- ❑ Walkable Communities
  - Safety , Accessibility & Connectivity
- ❑ Transit First
  - Transit Supportive Land Uses
- ❑ Streets & Freeways
  - Design & Connectivity
  - Traffic Calming
- ❑ Bicycling
  - Viable Mode Choice
- ❑ Parking Management
  - Parking Strategies Toolbox



# MOBILITY: VISION & GOALS

## Key Opportunities to Implement the General Plan Vision within the Plan Area:

- ❑ 2 Transit Stations!
- ❑ Excess traffic capacity on portions of Market and 47<sup>th</sup>
  - Opportunity for “road diet” to implement the City’s vision
- ❑ Land use opportunity sites
  - Opportunity to provide local street connectivity
- ❑ Chollas Creek
  - Bicycle & Pedestrian pathway
  - Local connectivity



# MOBILITY PRINCIPLES

## Pedestrians

- ❑ Locate marked crosswalks no more than 600 feet apart
- ❑ Pair marked crosswalks with actuated pedestrian signals and dedicated pedestrian refuges in medians (major streets)
- ❑ Sidewalks should be wide enough to accommodate pedestrians walking in both directions (at least 6 feet wide)



# MOBILITY PRINCIPLES

## Bicycles

- ❑ Provide full bike lanes on key through streets and streets connecting to transit
- ❑ Provide secured bicycle parking areas at trolley stops and in transit-oriented developments



# MOBILITY PRINCIPLES

## Traffic

- ❑ Roadways must meet City of San Diego level-of-service standards for TOD districts
- ❑ Design speeds within the core area should be 25-35 mph
- ❑ New development should include rear outlets to local streets to better disperse traffic
- ❑ Encourage street design that creates narrower, safer streets to serve neighborhoods



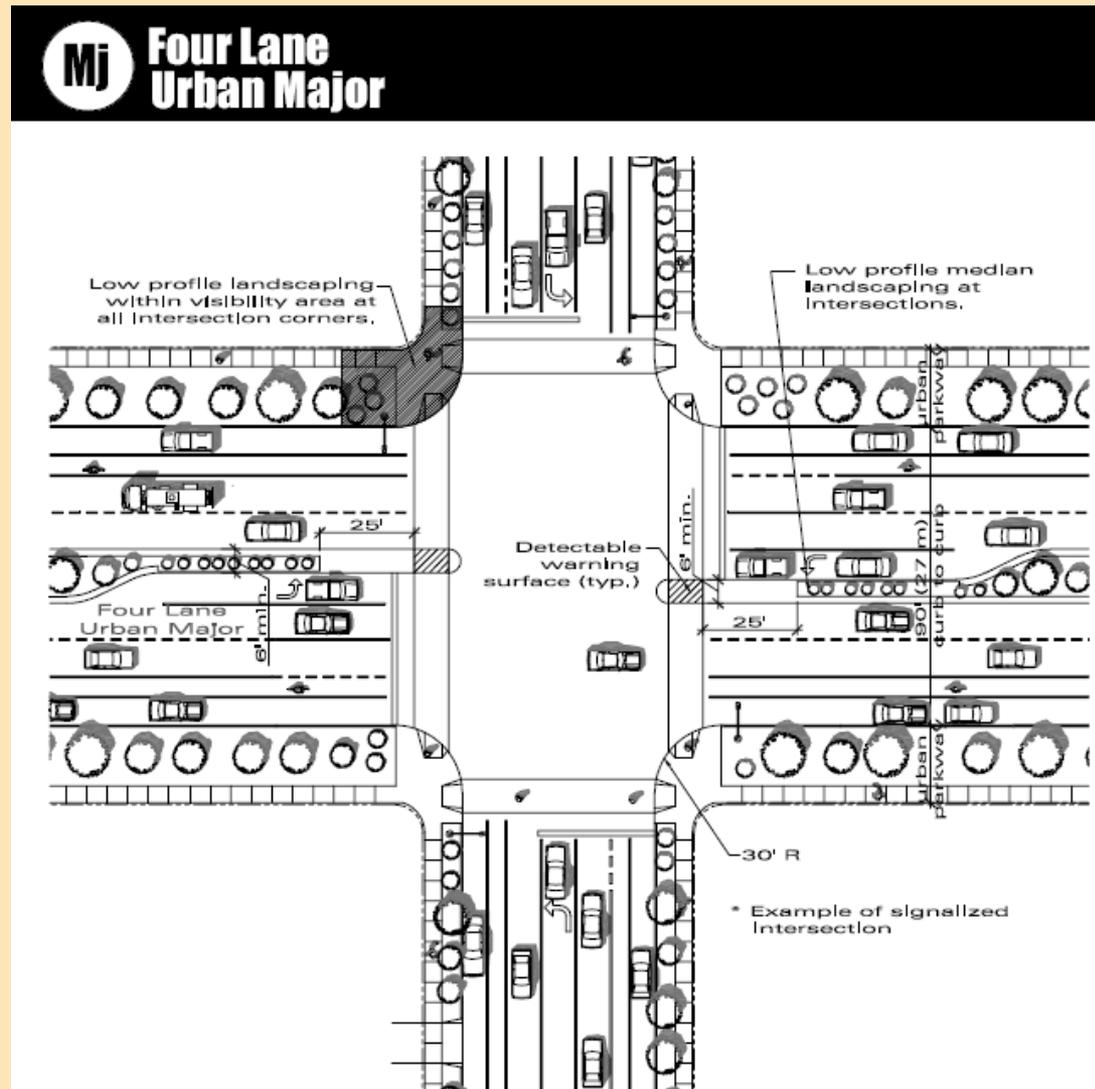


# MOBILITY: STREET TYPES

## MAJOR STREETS:

### □ Elements (full build-out):

- 4 travel lanes  
(2 per direction)
- Raised center median
- Design speed:  
**45 mph**
- Curb-to-curb width:  
**90 feet**
- Total right-of-way  
width: **118 to 130 ft.**



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  - Total right-of-way width: **118 to 130 ft.**

**Four Lane Urban Major**

<b>Width, Right-of-Way</b>	118 ft. (35.6 m) - 130 ft. (39.0 m)	
<b>Design ADT</b>	LOS C	30,000
	LOS D	35,000
<b>Design Speed</b>	45 mph (70 km/h)	
<b>Width</b> (includes bike lanes and 16 ft. (4.8 m) raised center median), <b>Curb-to-Curb</b> <sup>1,2</sup>	90 ft. (27.0 m)	
<b>Maximum Grade</b>	7%	
<b>Minimum Curve Radius</b>	1,090 ft. (325 m) with no superelevation 830 ft. (245 m) with 2% (min.) superelevation 660 ft. (195 m) with 6% (max.) superelevation	
<b>Land Use</b>	Single Dwelling Residential-no front or side yards; Multiple Dwelling Residential-no front or side yards; Neighborhood Commercial; Community Commercial; Regional Commercial; Commercial Office; Visitor Commercial; School (high school and above); Church; Public Building; Urban Village Commercial Retail; Industrial	
<b>Parkway Options</b>	U-4 (a); U-5 (a,b); U-6 (a,b)	

NOTE: Four-Lane Urban Major street classification is applicable to streets of limited length, where intersections are closely spaced, where there is extensive driveway access, or in other situations where the speed is expected to be less than 45 mph (70 km/h) or less.

<sup>1</sup> Widen additional 10 ft. (3.0 m) at approaches to intersecting four- or six-lane streets to provide a minimum of 250 ft. (75 m) of two-lane left-turn storage, exclusive of transitions. Receiving lanes for dual lefts shall be 12 ft. (3.6 m) wide. In instances where supporting information exists, such as an approved traffic impact study, showing clearly that dual left-turn lanes would not be warranted, the standard curb-to-curb width may be permitted.

<sup>2</sup> At intersections, a minimum 6 ft. (1.8 m) wide refuge island shall be maintained in the center median.

The diagram illustrates a street cross-section with the following components from left to right:
 

- Urban parkway (left boundary)
- 8' (2.4 m) parking
- 6' (1.8 m) bike lane
- 12' (3.6 m) travel lane
- 11' (3.3 m) travel lane
- 16' (4.8 m) raised center median
- 11' (3.3 m) travel lane
- 12' (3.6 m) travel lane
- 6' (1.8 m) bike lane
- 8' (2.4 m) parking
- Urban parkway (right boundary)

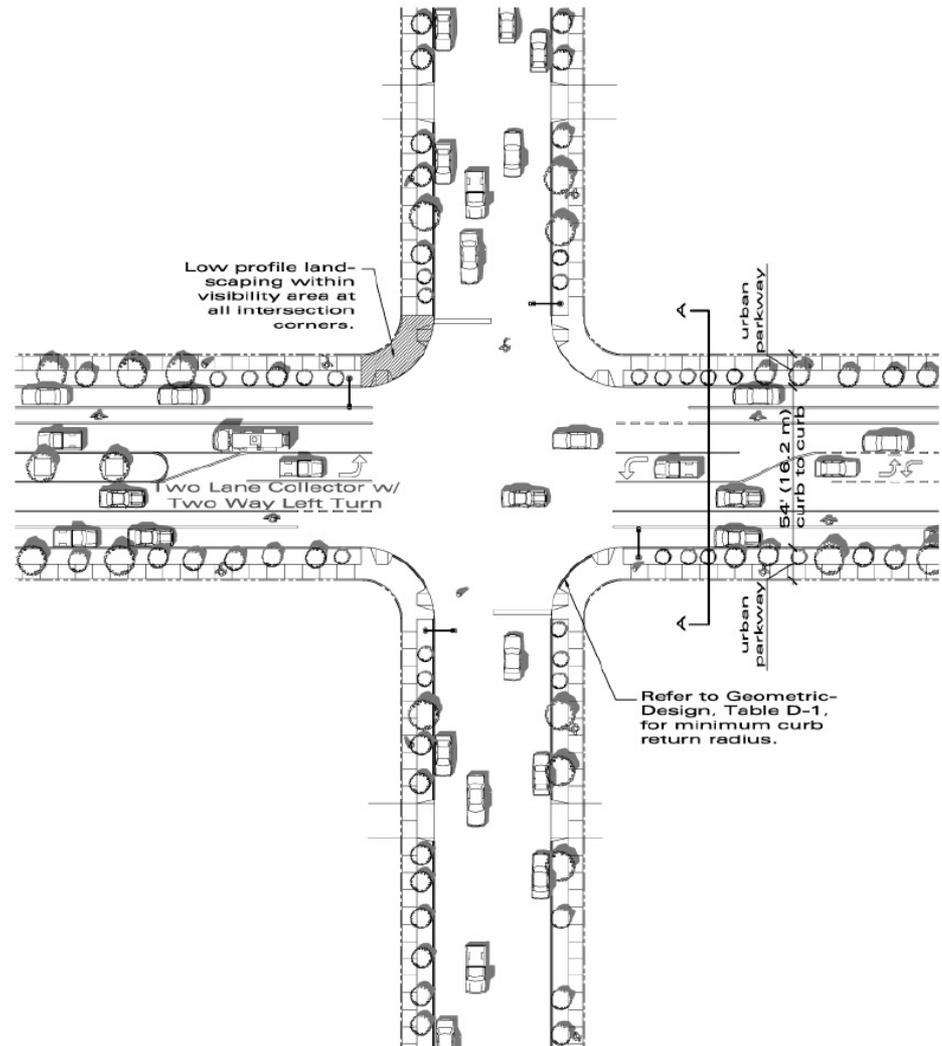
 The total curb-to-curb width is 90' (27.0 m). Trees are shown on both sides of the street, with a note indicating '8' to c of tree' from the curb to the center of the tree. Vertical dimensions for 'ROW' (Right-of-Way) are shown on both ends.

# MOBILITY: STREET TYPES

## COLLECTORS (2-LANE):

- Elements (full build-out):
  - 2 travel lanes (1 per direction)
  - Center turn lane or median
  - Design speed: **35 mph**
  - Curb-to-curb width: **54 feet**
  - Total right-of-way width: **78 to 94 feet**

### **C1** Two Lane Collector with Two Way Left Turn Lane



# MOBILITY: STREET TYPES

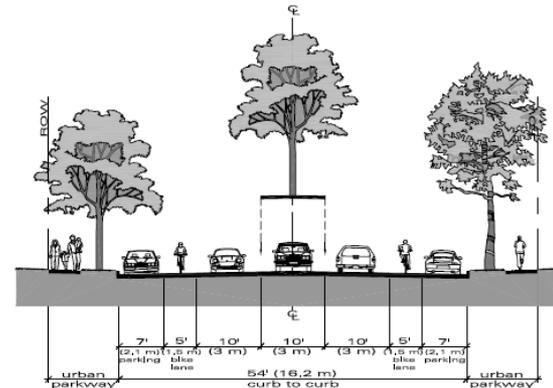
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### Two Lane Collector with Two Way Left Turn Lane C1

<b>Width, Right-of-Way</b>	78 ft. (23.4 m) - 94 ft. (28.2 m)	
<b>Design ADT</b>	LOS C LOS D	10,000 13,000
<b>Design Speed</b>	35 mph (60 km/h)	
<b>Width, Curb-to-Curb</b>	54 ft. (16.2 m)	
<b>Maximum Grade</b>	8%	
<b>Minimum Curve Radius</b>	610 ft. (220 m) with no superelevation 470 ft. (170 m) with 2% (min.) superelevation 380 ft. (135 m) with 6% (max.) superelevation	
<b>Land Use</b>	Single Dwelling Residential—no front yards, Low Density Multiple Dwelling Residential—no front yards, Open Space-Park, Medium to Very High Density, Multiple Dwelling Residential	
<b>Parkway Options</b>	U-3; U-4 (a)	
<b>Land Use</b>	Neighborhood Commercial; Community Commercial Regional Commercial; Commercial offices Visitor Commercial; School, Church, Public Building	
<b>Parkway Options</b>	U-5 (a,b); U-6 (a,b)	
<b>Land Use</b>	Pedestrian-Oriented Commercial Retail, Urban Village Commercial Retail	
<b>Parkway Options</b>	U-5 (a,b); U-6 (a,b)	

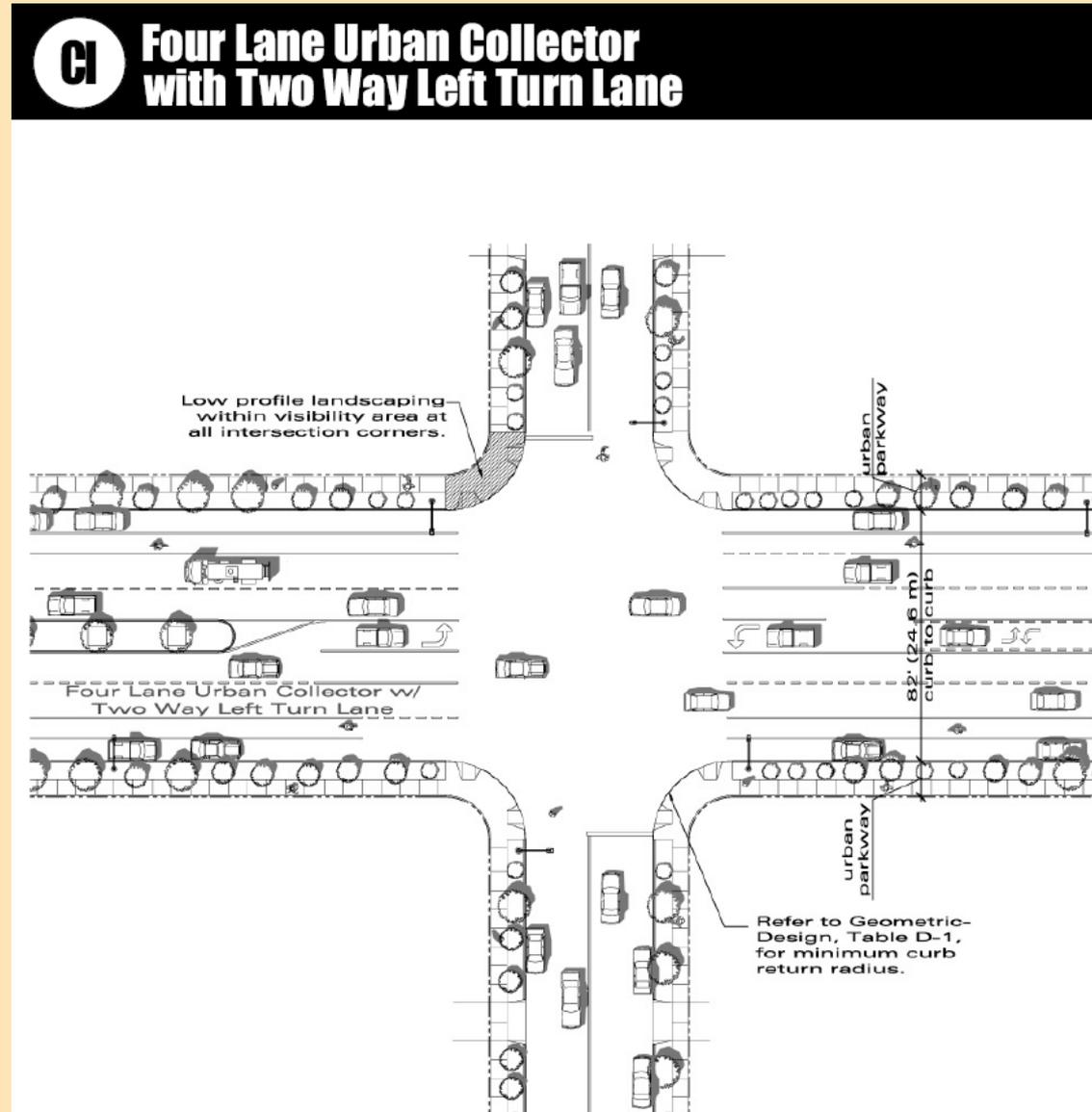
NOTE: Two-way left-turn lane shall be considered only for streets of limited length where intersections are closely spaced or where there is extensive driveway access. For all other conditions, raised center medians should be considered. Where raised center



# MOBILITY: STREET TYPES

## COLLECTORS (4-LANE):

- Elements (full build-out):
  - 4 travel lanes (2 per direction)
  - Center turn lane or median
  - Design speed: **35 mph**
  - Curb-to-curb width: **82 feet**
  - Total right-of-way width: **110 to 122 ft.**



# MOBILITY: STREET TYPES

## COLLECTORS (4-LANE):

### □ Elements (full build-out):

- 4 travel lanes  
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**35 mph**
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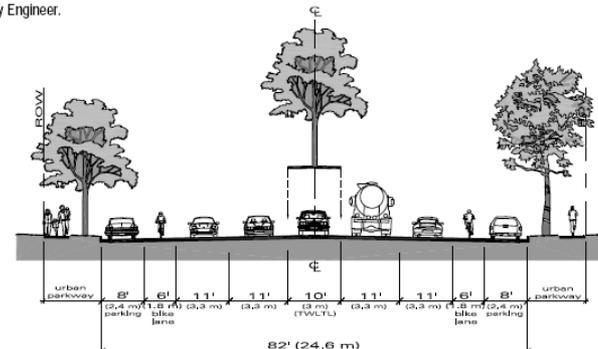
## Four Lane Urban Collector with Two Way Left Turn Lane

CI

Width, Right-of-Way	110 ft. (33.2 m) - 122 ft. (36.6 m)	
Design ADT	LOS C LOS D	20,000 25,000
Design Speed	35 mph (60 km/h)	
Width (includes bike lanes), Curb-to-Curb	82 ft. (24.6 m)	
Maximum Grade <sup>1</sup>	8%	
Minimum Curve Radius	610 ft. (220 m) with no superelevation 470 ft. (170 m) with 2% (min.) superelevation 380 ft. (135 m) with 6% (max.) superelevation	
Land Use	Single Dwelling Residential-no front yards; Low Density Multiple Dwelling Residential-no front yards; Open Space-Park; Industrial; Medium-to-Very High Density Multiple Dwelling Residential-no front yards	
Parkway	U-4 (a)	
Land Use	Neighborhood Commercial; Community Commercial; Regional Commercial; Commercial Office; Visitor Commercial; School; Church; Public Building	
Parkway Options	U-5 (a,b); U-6 (a,b)	
Land Use	Pedestrian-Oriented Commercial Retail; Urban Village Commercial Retail	
Parkway Options	U-5 (a,b); U-6 (a,b)	

median is installed, access provisions across the median for emergency vehicles should be provided at 300 ft. (90 m) intervals.  
NOTE: Two-way left-turn lane shall be considered only for streets of limited length where intersections are closely spaced or where there is extensive driveway access. For all other conditions, raised center medians should be considered.

<sup>1</sup> Whenever topographic constraints would cause excessive slope heights or create unmitigable landform impacts, the maximum street grade may exceed 8% for non-fronting property, up to a maximum of 10% for streets with less than 10,000 ADT, subject to approval of the City Engineer.



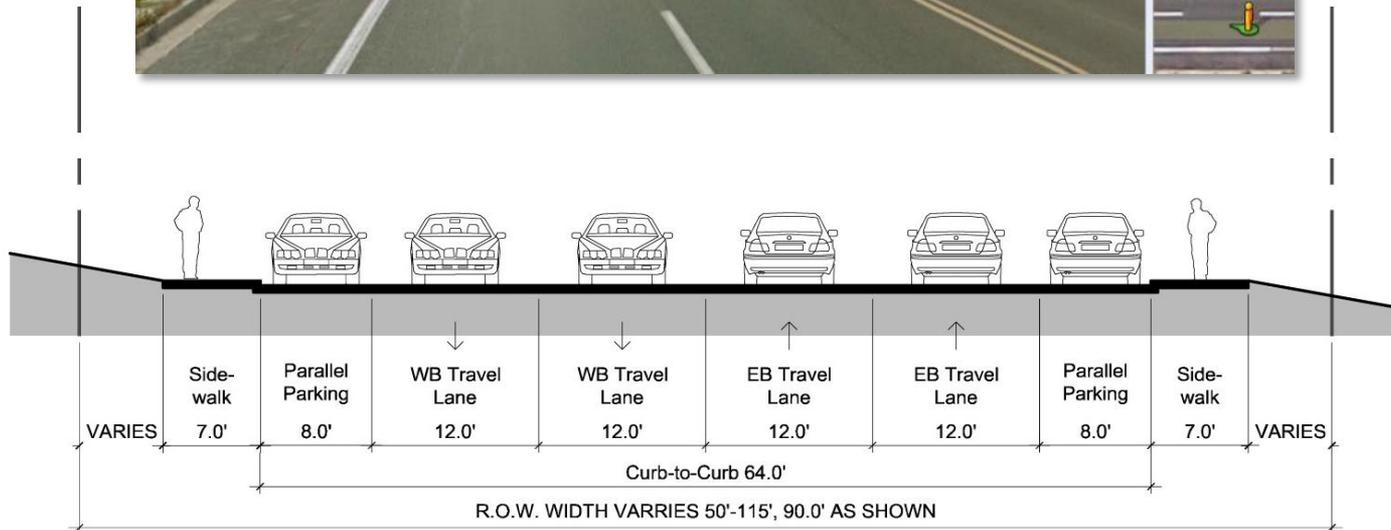
# MOBILITY: STREET TYPES

WHICH STREET TYPE IS THIS?



# DESIGN OPTIONS AND OPPORTUNITIES

## Market Street – between 47<sup>th</sup> Street and Euclid: EXISTING



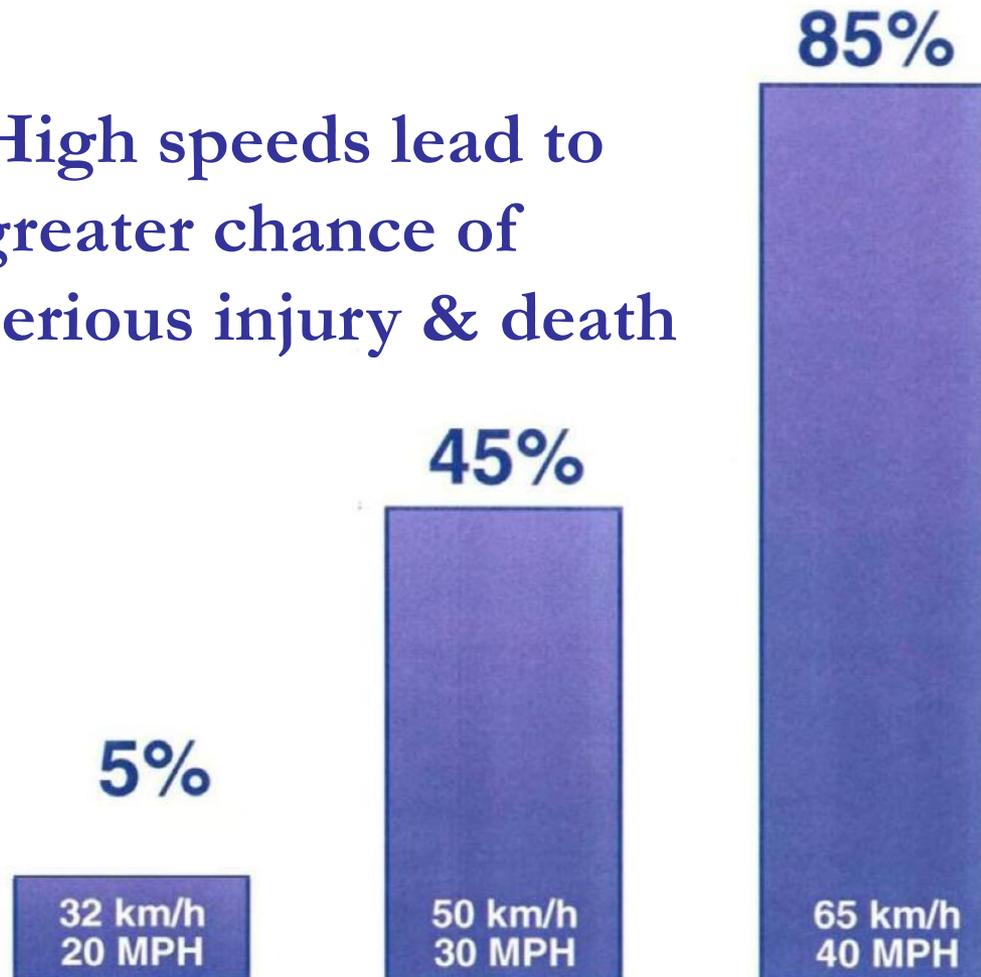
# MOBILITY PRINCIPLES

- ❑ Wide roads are designed to accommodate higher speed



# SPEED MATTERS!

High speeds lead to  
greater chance of  
serious injury & death

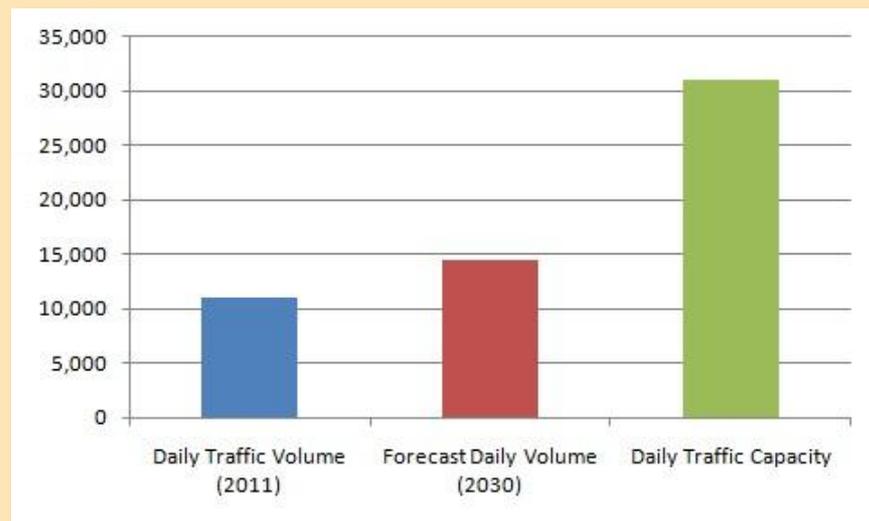
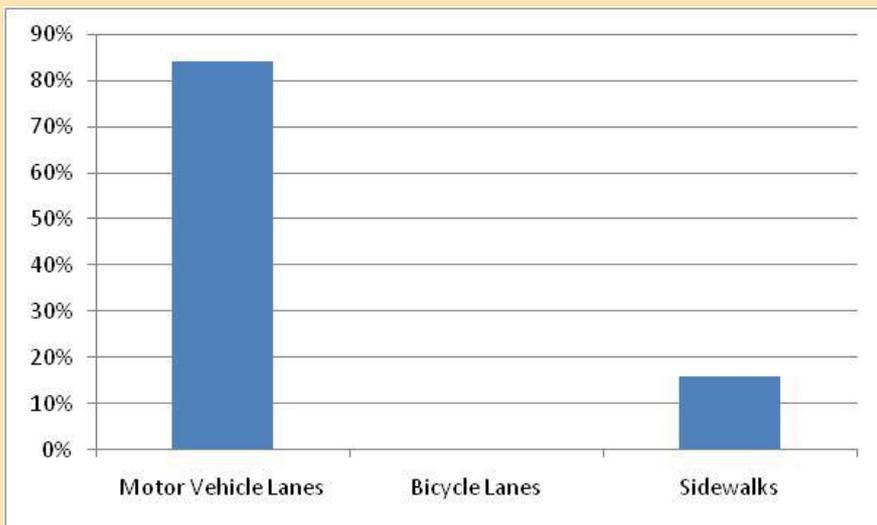
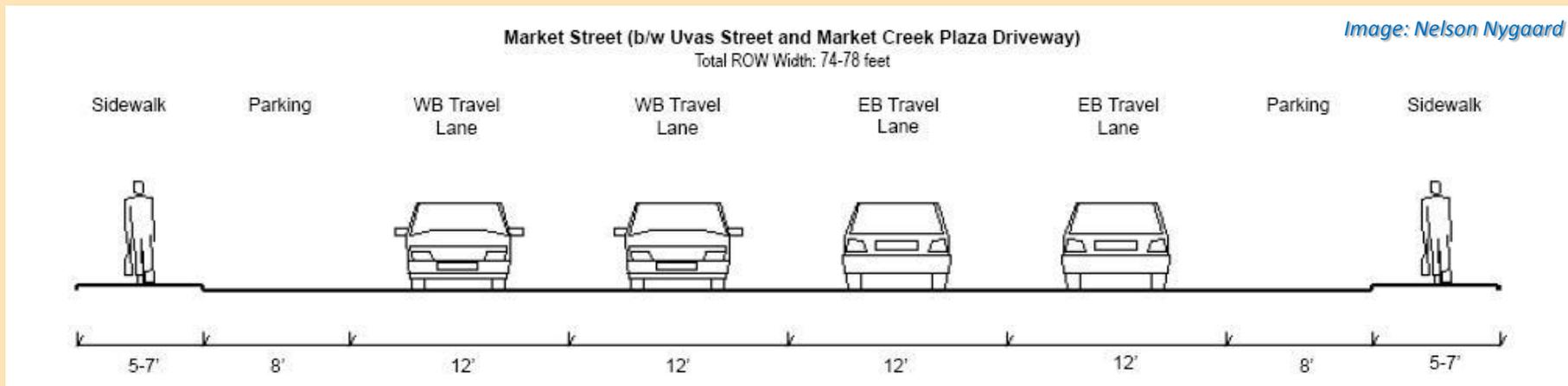


**Pedestrians' chances of death if hit by a motor vehicle**

SOURCE: *Killing Speed and Saving Lives*, UK Department of Transportation

# MOBILITY

## Excess capacity on Market Street



# HOW TO MAKE ROOM: ROAD DIETS



Convert 4-Lane Road to 3-Lane with center Left-turn Lane

**29% crash reduction**



□ Opportunity: Transform an existing automobile strip into...



...a complete street serving the community.



This 5-lane Main Street was converted to...



Fewer travel lanes; added bike lanes; parallel to back-in diagonal parking on one side; new pavement

# EXCESS CAPACITY: AN OPPORTUNITY

❑ Market Street in 10 to 20 years?



# Plan Area Pedestrian Facilities

- Existing Ped Signals & Crosswalks
- Improved Ped Signal & Crosswalk Intersection

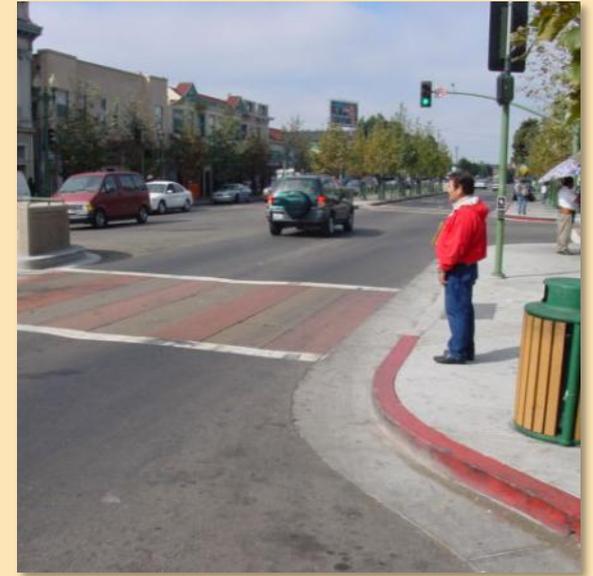
- Proposed Crosswalks
- New Off-Street Connection

- Proposed Ped Signals & Crosswalks

Precise locations undetermined.



# PEDESTRIAN IMPROVEMENTS: CROSSWALKS



# BICYCLE FACILITIES PLAN



# T.O.D. PARKING STANDARDS

	Traditional Parking Standards (Car)	T.O.D. Parking Standards - Car	T.O.D. Parking Standards - Bicycle	T.O.D. Parking Standards - Motorcycle
Commercial and Mixed-Use (Village)	5.5/1,000 sf	2.1/ 1,000 sf	1/ 1,000 sf	0.1/ 1,000 sf
Residential – Single-family	2/ du	1/du	n/a	n/a
Residential – Multi-family	2/ du	0.5/du	0.25/ 1,000 sf	0.1/ 1,000 sf
Business Park	3/ 1,000 sf	1.25/ 1,000 sf	1/ 1,000 sf	0.1/ 1,000 sf



# PARKING COSTS



	Surface Parking	Tuck-Under Private Garage	Structured Parking / Podium Garage
Building Types	Single family Houses, Townhouses, Commercial	Townhouses and 2-3 Story Stacked Flats	3-5 Story Stacked Flats; Mixed Use
Cost per Space	\$3,000-\$4,000	\$10,000-\$15,000	\$25,000-\$40,000
Net Density	10-25 DU/Acre	20-35 DU/Acre	30-55+ DU/Acre