Grand Avenue Road Diet
Jean St/Wildwood Ave to Elwood Ave

Bicycle and Pedestrian Advisory Committee Meeting
Thursday, June 18, 2015
Oakland City Hall
Location Map

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June 18, 2015
Project Purpose

• Reduce collision rates for all roadway users

• Reduce the number of travel lanes to better match roadway vehicle demand

• Improve bicycle facilities

• Improve the pedestrian experience walking along and crossing Grand Avenue
Existing Cross Section

- FRONT-IN ANGLED PARKING 15’
- TRAVEL LANE W/ SHARROW 13’
- TRAVEL LANE 12’
- TRAVEL LANE 12’
- TRAVEL LANE W/ SHARROW 13’
- FRONT-IN ANGLED PARKING 15’
Challenges Posed by 4-lane Roads

**Pedestrians**
- Double threat
- Several lanes to cross

**Bicyclists**
- Shared lane with motorists
- Proximity to parked cars

**Motorists**
- Obstructions in lanes (e.g. parking)
- Lane changes to avoid obstructions
Project Scope

• Evaluate alternatives for:
  – Reducing vehicle travel lanes from 4 to 3
  – Adding bicycle lanes
  – Types of on-street parking
• Reconfigure the roadway cross-section to better meet the needs of road users
Alternatives Considered

- The following alternatives were considered for the road diet on Grand Avenue
  - Back-in angle parking
  - Protected bicycle lanes
  - Traditional bicycle lanes

Source: City of Burnaby

Source: Biking Cupertino

Source: NACTO
Back-In Angle Parking

Example in Philadelphia

Photo source: Payton Chung via flickr

Photo source: BikeWalkKC
Back-In Angle Parking: Benefits

- Improves visibility and field of vision when leaving parking space
- May decrease collisions between bicyclists and motorists
- Improves safety for motorists
- Access to rear storage in vehicles is away from moving vehicles

Source: Denver Post
Back-In Angle Parking: Drawbacks

- Motorists are unfamiliar with maneuver
- Vehicles may overhang the sidewalk
- Vehicle exhaust expelled toward sidewalk
- Vehicles enter head-in from opposite side of street
- May result in loss of parking
- Inconsistent with the rest of Grand Avenue

Source: Payton Chung via flickr
Source: New York Times
Protected Bike Lanes

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Protected Bike Lanes: Benefits

• Dedicates and protects space on street for bicyclists
• Reduces conflicts between motorists and bicyclists
• Reduces risk of motorists dooring bicyclists
Protected Bike Lanes: Drawbacks

- May require removing parking spaces near intersections
- Requires redesigning intersections to accommodate bicyclists turning left
- Requires redesigning intersections to manage conflict between motorists turning right and bicyclists going through
Traditional Bike Lanes

- FRONT-IN ANGLED PARKING
- BIKE LANE
- TRAVEL LANE
- TWO-WAY LEFT-TURN LANE
- TRAVEL LANE
- BIKE LANE
- FRONT-IN ANGLED PARKING
Traditional Bike Lanes: Benefits

• Provides exclusive space in street for bicyclists
• Facilitates predictable behavior and movements between bicyclists and motorists
• Bicyclists can move into vehicle travel lanes as desired and needed
• Consistent with current striping on Grand Avenue
Traditional Bike Lanes: Drawbacks

• Does not protect bicyclists from moving or parked vehicles
• Bicyclists may not be as visible to motorists reversing out of front-in angle parking
Proposed Plan

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Effects on Bicyclists

Mineta Transportation Institute
Bicycle Level of Traffic Stress:
Suitable for whom?

LTS 1: Everyone
LTS 2: All adults
LTS 3: Most adults
LTS 4: Experienced adults

Factors that determine LTS
1. Number of vehicle lanes
2. Speed of motorists
3. Presence of parking
4. Bike lane presence/width
5. Separation between bike lane and motor vehicle lanes

Broadway
Effects on Bicyclists

- Dedicated street space for bicyclists
- 3’ clearance between bike lane and angled parking
- May modestly reduce vehicle speeds
- Bike lane obstruction by parking maneuvers
- Bicycle level of traffic stress (Mineta Transportation Institute)
  - Current conditions: Level 4
  - With road diet: Level 3
Effects on Pedestrians

- Two mid-block crosswalks:
  - 3612 Grand Ave (near Margenes Bridal)
    - Existing crossing delay: > 2 minutes (peak period)
    - Expected crossing delay: 25 seconds (peak period)
  - 3758 Grand Ave (near Safeway)
    - Existing crossing delay: > 2 minutes (peak period)
    - Expected crossing delay: 20 seconds (peak period)
Effects on Motorists

• Up to 5 second reduction in average delay at:
  – Boulevard Way (AM/PM peak hours)
  – Sunnyslope Ave (AM peak hour)
  – Weldon Ave (AM/PM peak hours)
• Up to 4 second increase in average delay at:
  – Jean/Wildwood (AM/PM peak hours)
  – Sunnyslope Ave (PM peak hour)
  – Mandana Ave (AM peak hour)
  – Elwood (AM/PM peak hours)
• 19 second increase in average delay at Mandana Ave (PM peak hour)
Potential Safety Improvements

• Reduce risk of side-swipe collisions

• Reduce risk of collisions involving pedestrians crossing Grand Ave.
  – 5 occurred between 2009 and 2013.

• Reduce bicycle collision rate
  – 6 occurred between 2009 and 2013.
Questions and Responses
Southern Transition

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Northern Transition