Transportation and Community Development:  
Strategies for Stronger Communities with Sustainable Mobility 

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My talk today

• Research in support of, and learning from, progressive professional practice at the University of California 
• Cases of community development efforts in variety of urban places 
• Work combines transportation and land use planning, community development, real estate economics, urban design, environmental assessment
Three Propositions

- Community development involves social policy, economic development, and urban planning - to be sustainable it must be socially and environmentally sound as well as economically feasible
- Sustainable urban development must be co-developed with sustainable transport systems
- In metropolitan regions, where the majority of the world’s population now lives, urban planners and designers must provide leadership and innovation for sustainable development to succeed

Strategies for Achieving Sustainable Urban and Metro Development

- Use land use planning, urban design plans, zoning, and building permit processes to stimulate sound private investment and produce a healthy development pattern supported by, and supportive of, multimodal transportation plans
- Use multi-modal transportation plans integrated at every scale, from building to region, to support and shape the desired urban development
- Implement laws, regulations, and public-private partnerships that will help keep appropriate land uses in place and transportation systems functioning over the long term
Specific Ideas that Work

- **Transit-oriented development** – development designed to support walking, biking, and transit use as convenient and practical modes
- **Infill** – providing greater density so that there are enough people and activities to support transit and local services, with a mix of services to meet resident and employee daily needs, designed to make the entire area attractive, comfortable, safe, walkable
- **Community-oriented transit** - matching transit technologies and services to land uses /activities and social needs, improving transportation access to promote social inclusion and economic opportunity

What It Takes To Make It Possible

- Willing developers
- Savvy city staff and political leaders that understand the development process
- Community engagement in the development of the plans
- A commitment to partnerships that can last!

*These points apply to all kinds of communities, affluent and poor.*
1-Transit Oriented Development
(Arlington VA)

Regional Strategy:
TODs as String of Pearls along Corridors
Matching Densities to Transit Service

- Rail leads to high density districts around stations
- BRT, with more stops, leads to linear corridors
- Light rail designs can do either
- Densities should be high enough to:
  - Assure that the level of transit investment is justified
  - Support an attractive mix of uses and a vibrant community
  - Allow for the inclusion of services for a variety of needs, tastes, income levels

Both Transit Services and Land Uses Can Reflect Population Characteristics

- Needs may vary with age, employment status, employment type / occupation, auto ownership
- Example
  - Carless populations will need more transit service, 24 hr service or other options if late night need arise
  - Elderly and people with disabilities may need more attention given to sidewalk quality, aids to walking such as countdown signals; medical services, etc. also
Community Oriented Transit: Adjusting BRT Stations to Serve Carless Population

- GIS Map of BRT corridor showing quarter mi. radius from stations
- Mapped over census data - % zero car households
- Shows where more service is needed, more stops located accordingly

Mistakes Get Made.... Transit-Adjacent, Inappropriate Land Use

This shopping center is adjacent to a rail transit station and along a BRT line. But its suburban design make it off-putting to pedestrians and most shoppers come by car.
Not pedestrian friendly: view of development blocked by berm

The same shopping center sports a landscaped berm that cuts off pedestrians from even having a view of the stores – this design is bad for merchants, too!

Not convenient – offices only

This development clusters a number of high rise office buildings around a suburban rail station. There is a bus bus connection, and wide sidewalks, but the street level is bleak with no pedestrian oriented uses. This development approach fails to fully take advantage of location and synergy, and misses out on place making.
But: Good Ideas Come in All Sizes

...And Repairs Can be Implemented!
Infill Retail Near Bus and Rail Transit Lines
(Oakland, CA; Walnut Creek, CA)
Developing TODs: Two Cases from San Francisco

- Embarcadero Freeway and San Francisco Ferry Building: freeway removal and urban revitalization around transit
- Proposed Transbay Terminal – using redevelopment to help fund new facilities and increase transit focus

1- The Freeway as Land Bank?
The Embarcadero Freeway and Ferry Building, San Francisco – Before the Loma Prieta Earthquake
Ferry Bldg. – San Francisco After Freeway Removal and Urban Revitalization

Ferry Bldg. Revitalization
Before and after - now a vibrant market and office building as well as transit hub
New Urban Environment around Ferry Bldg.

2- San Francisco Transbay Terminal and Redevelopment Area Proposal
Conceptual Drawing of Transbay Terminal (Bus/Rail/LRT/BRT - San Francisco) - $1 B (2001)

Publicly Owned Land Proposed for Development
Concept Plan – Joint Development to Pay for Terminal

3,300 housing units
750,000 sq. ft. of office
450,000 sq. ft. of hotel
60,000 sq. ft. of retail

Residential Streets Around Terminal
### Funding Plan

#### Project Costs

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Capital Costs (including value engineering)</td>
<td>$2,082.9</td>
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<td>Debt Service</td>
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<tr>
<td><strong>Total Costs</strong></td>
<td><strong>$3,940.1</strong></td>
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#### Project Revenues

<table>
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<tr>
<th>Description</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Committed Revenues</td>
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</tr>
<tr>
<td>Sales Tax (San Mateo County)</td>
<td>$27.0</td>
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<tr>
<td>Regional Transportation Improvement Program</td>
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<tr>
<td>Land Sales</td>
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<tr>
<td>Tax Increment</td>
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<tr>
<td>Net Operating Revenues (including Bridge Tolls)</td>
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<tr>
<td>SFCTA Proposition K (Passed by voters Nov. 2003)</td>
<td>$295.0</td>
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<tr>
<td>FTA Section 1401</td>
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<tr>
<td><strong>Regional Discretionary Funds</strong></td>
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<tr>
<td>Regional Measure 1 (Bridge Tolls)</td>
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<tr>
<td>AB 1171</td>
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<tr>
<td>Regional Measure 2 Bridge Toll Increase</td>
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<td><strong>Revenues Requiring Measures to be Voted</strong></td>
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<td>High Speed Rail Bonds</td>
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<td><strong>Other Revenues</strong></td>
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<td>Passenger Facility Charge</td>
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<td>Leverage Lease Transaction</td>
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<td>TIFIA Loan</td>
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<td>Other Revenues to be Determined</td>
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<tr>
<td><strong>Total Revenues</strong></td>
<td><strong>$3,940.1</strong></td>
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Case Study: Urban Development For the CA HSR System

700+ mile proposed system
Stations proposed in 7 Central Valley cities
CV station ridership in 2030 estimated to be in the range of 2500-10,000 riders a day (BART station levels)
1/3 to 1/2 of CV trips could be work trips

Study Objectives

Develop design concepts for transit-friendly development around High Speed Rail stations in Central Valley cities and towns: Stockton, Merced, Fresno case studies
Assess impacts of such development
Merced: High-Speed Rail station area - redevelopment analysis, (showing walking distance)

Merced: Infill potential

Legend:
daowntown retail

public buildings

retail office

housing

HSR station location

freeway and railways

5, 10, 15 minute walk from station

areas with infill potential
Establishing visual connections

Urban plazas & parks

Potential BRT corridor

HSR Station

Strong pedestrian connection using wide sidewalks and trees

MAIN DESIGN IDEAS

16th Street – Existing
16th Street – a revitalized street

16th Street – Plus sidewalks

16th Street – a revitalized street
Mid-Block Alley – existing

Present in almost every block in Merced, these alleys have a potential to become more attractive places.

15' 9' 11' 4' 11' 9' 15'

Pedestrian-friendly streets with landscape median, 1 vehicle lane in each direction, parallel on-street parking, wide sidewalks, street-accessible housing with front yards on 6' podium, upper levels of housing

The Quiet Residential Street

Pedestrian-friendly streets with landscape median, 1 vehicle lane in each direction, parallel on-street parking, wide sidewalks, street-accessible housing with front yards on 6' podium, upper levels of housing
### Infill Typologies

1. Podium parking on ground, with retail uses on busy streets, and a mix of 3 levels of housing or offices above (based on location)

<table>
<thead>
<tr>
<th>Number of Townhouses (1,600 ft² each)</th>
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<tbody>
<tr>
<td>Number of Apartments (1,000 to 1,200 ft² each)</td>
<td>69</td>
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<tr>
<td>Square Footage of Townhouses and Apartments</td>
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<td>Internal Building Circulation (ft²)</td>
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<tr>
<td>Retail (ft²)</td>
<td>28,700</td>
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<td>Office (ft²)</td>
<td>0</td>
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<tr>
<td>Parking Spaces (per Acre)</td>
<td>126</td>
</tr>
<tr>
<td>Units/Acre</td>
<td>55</td>
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<tr>
<td>Parking needed: 60 for housing + 30 for retail / ft² of retail</td>
<td>126</td>
</tr>
<tr>
<td>Parking Spaces (townhouse + 22 on street + 22 on adjacent blocks)</td>
<td>126</td>
</tr>
<tr>
<td>Block Surface (Acres)</td>
<td>1.25</td>
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</tbody>
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**Internal courtyard above podium**

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**Fresno: Current densities in the study area (1 square mile around the HSR station)**

- Downtown retail
- Public buildings
- Warehouses / retail
- Residential
- Central Business District
- HSR station location
- 5, 10, 15 minute walk from station
- Fulton Mall (historic core of downtown)
Summary

• Urban planning and design can work hand in hand with transport planning to create successful, sustainable urban districts

• Sustainable development creates major opportunities for economic prosperity through environmentally and socially responsible development – better on all fronts

• Planners, economists, and designers working together can help – action research and research into practice