GreenTRIP Connect
October 22, 2013
Rail~Volution
Transit Passes as Tools: A Nuts and Bolts Discussion
Idea Exchange
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Associate VP
AECOM Transportation
Drive till you qualify

Business as usual is not working.
8 Million More Homes Near Transit Needed

2035 Demand Vs. 2010 Supply
Transit Served Neighborhoods
Millions of Homes

Demand 2035

Supply 2010

0 2 4 6 8 10

The New California Dream:
How Demographic and Economic Changes May Shape the Housing Market

In CA's Largest 4 Metropolitan Areas: MTC, SCAG, SANDAG, SACOG
Windfall for All Report by TransForm

Top 20% Transit HH’s spend $5,200 less on transportation, annually!
Garden Village: First Zero Parking Project

77 Units, Downtown Berkeley – Dwight & Fulton
BEFORE

$2.3 million

Below Grade Garage

$48k per space

49 Parking Spaces
FREE CARSHARE MEMBERSHIP

Pay for parking separately from cost of renting or purchase of home.

DISCOUNT TRANSIT PASSES

UNBUNDLE PARKING

Parking Optional
At Grade: 14 guest bike parking spaces, secured, off-street

GetAround: 4-6 Shared Cars & Truck

On-Street: Short term, bike parking

Pedestrian Trunk in Every Unit

In Unit Bicycle Parking Hooks

$10 Bikelink Card for Every Resident

Bicycle Fixing Station

GreenTRIP Certified
<table>
<thead>
<tr>
<th>Credits</th>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Density</strong></td>
<td></td>
</tr>
<tr>
<td>39 Units/Acre</td>
<td>17% Reduction</td>
</tr>
<tr>
<td><strong>Mix of Uses</strong></td>
<td></td>
</tr>
<tr>
<td>Within a Half-Mile</td>
<td></td>
</tr>
<tr>
<td>3,958 Jobs</td>
<td>7% Reduction</td>
</tr>
<tr>
<td>3,950 Homes</td>
<td></td>
</tr>
<tr>
<td><strong>Local Retail Present</strong></td>
<td></td>
</tr>
<tr>
<td>Source: 2010 Census</td>
<td>2% Reduction</td>
</tr>
<tr>
<td><strong>Transit Service</strong></td>
<td></td>
</tr>
<tr>
<td>435 Weekday Buses in 1/4 Mile</td>
<td>6% Reduction</td>
</tr>
<tr>
<td><strong>Pedestrian/Bicycle Friendliness</strong></td>
<td></td>
</tr>
<tr>
<td>291 Intersections per Sq. Mile</td>
<td>5% Reduction</td>
</tr>
<tr>
<td>90% Streets w/ Sidewalks both sides</td>
<td></td>
</tr>
<tr>
<td>56% Arterial Streets w/ Bike Lanes or where suitable, direct parallel routes</td>
<td></td>
</tr>
<tr>
<td><strong>Affordable Housing</strong></td>
<td></td>
</tr>
<tr>
<td>99% of units are Deed Restricted Below Market Rate Housing</td>
<td>4% Reduction</td>
</tr>
</tbody>
</table>
First Community Housing, San Jose gives out EcoPasses to all residents (over 1,500/year)

- 22% said EcoPass reduced the # of cars owned.
- 64% use EcoPass 4+ times per week.
- 4 Top EcoPass Uses: school, shopping, work, and medical.

Source: FCH
### 2.2 Parking Spaces per Unit vs. 0.7

<table>
<thead>
<tr>
<th></th>
<th>Change</th>
<th>2.2</th>
<th>0.7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Units</td>
<td>+220</td>
<td>801</td>
<td>1,021</td>
</tr>
<tr>
<td>Parking Spaces</td>
<td>-1,086</td>
<td>1,800</td>
<td>714</td>
</tr>
<tr>
<td>Parking Cost</td>
<td>-$20.1 m</td>
<td>$33.3 m</td>
<td>$13.2m</td>
</tr>
<tr>
<td>Traffic Reduction</td>
<td>+$6 m</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 free pass & 1 free carshare membership per unit
Results – First five certified projects:

40 year commitment

2,010: FREE Transit Passes

3,293

600: FREE Carshare Memberships

1,224

355: 100% Unbundled Parking Spaces

418
Projected Impacts of 5 Pilot Projects

15+ Projects

$17

$7 million increased revenue for transit agencies

59,400 fewer miles driven per day

$8,588 – AAA avg. annual car cost: saved by every household that reduces car ownership
GreenTRIP Advisory Committee
Barriers to Infill

- Outdated Codes
- Insufficient Data
- Reduced Planning Staff
- Information Mismatch
- Community Opposition
Data Collection

• **Smart Growth Trip Generation Study** –
  – Phase 3: Add Affordable Housing and onsite TDMs.
  – **Caltrans** – proposal accepted but not funded for state-wide data

• **GreenTRIP tool included in HUD Regional Prosperity Plan grant to MTC:**
  – Bay Area, 100 sites for parking
Model Enhancements

- Place Types
- Regional Travel Inputs
- Base Year and Forecast Data

150 meter Grid

Intrinsic Factors
- Density
- Diversity
- Design
- Development Scale

Extrinsic Factors
- Distance to Transit Destinations
- Demand Management

Demographic Factors
- Demographics

MXD Model
- Mode Choice
- Trip Internalization

(On-site) Demand Management

Dedicated Affordable Homes

VMT
- Trips by Mode
- Congestion

Fuel Use
- Electricity Use

Per-Mile Costs

Per-Mile Emission Rates

Fuel Price

Fuel and Electricity Emission Rates

Congested VMT

10-D Sketch Travel Model

Auto Ownership and Maintenance Costs

Criteria Pollutant Emissions

Fuel Costs

GHG Emissions
ESTIMATED PARKING USE RATIO: 0.77

The preset values below represent regional average values (from the RSP field work sample) for building and parking specifications. These represent the default values for which parking use ratios are estimated. You may adjust any of these factors and click UPDATE to see the impacts on parking use estimates for your selected parcel(s). Click RESET to return to averages.

NUMBER OF UNITS:
- STUDIOS: 20
- 1 BEDROOMS: 60
- 2 BEDROOMS: 60
- 3+ BEDROOMS: 10
- TOTAL: 150

NUMBER OF AFFORDABLE UNITS: 20

NUMBER OF SENIOR UNITS: 2

RESIDENTIAL AREA (SQ FT): 125,000

AVERAGE RENT: ($)
- $1,275

MONTHLY PRICE PER STALL: ($) $50

http://apps.cnt.org/rsp_beta
Strategies to Reduce Parking Costs

% Affordable Units

Free Transit Passes per unit

Depth of Affordability % of Area Mean Income

Free Carshare Memberships per unit

Unbundled Parking Cost/Space/Month

($20K/space)
### Estimated Parking Use Ratio

<table>
<thead>
<tr>
<th>Estimated Parking Use Ratio</th>
<th>0.77</th>
<th>2.2</th>
</tr>
</thead>
</table>

#### Total Stalls

| Total Stalls | 116 | 331 |

#### Surface Parking

<table>
<thead>
<tr>
<th>Total Capital Costs (Land &amp; Construction)</th>
<th>$5,019,861</th>
<th>$14,342,460</th>
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</thead>
<tbody>
<tr>
<td>Monthly Costs per Residential Unit (including O&amp;M)</td>
<td>$282</td>
<td>$806</td>
</tr>
<tr>
<td>Annual GHG Emissions from Construction and Maintenance (kg CO2e)</td>
<td>8,201</td>
<td>23,431</td>
</tr>
</tbody>
</table>

#### Structure Parking

<table>
<thead>
<tr>
<th>Total Capital Costs (Land &amp; Construction)</th>
<th>$3,420,533</th>
<th>$9,772,951</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monthly Costs per Residential Unit (including O&amp;M)</td>
<td>$211</td>
<td>$603</td>
</tr>
<tr>
<td>Annual GHG Emissions from Construction and Maintenance (kg CO2e)</td>
<td>19,982</td>
<td>57,091</td>
</tr>
</tbody>
</table>

#### Estimated Annual VMT of Building Residents

| Estimated Annual VMT of Building Residents | 1,625,340 | 4,643,829 |

#### GHG Emissions from Vehicle Use of Residents (kg CO2)

| GHG Emissions from Vehicle Use of Residents (kg CO2) | 660,671 | 1,887,631 |
UrbanFootprint Analysis Engines

- Local Fiscal Impacts
- Public Health
- Transportation
- Land Consumption
- Building Energy Use
- Household Costs
- Greenhouse Gas Emissions
- Building Water Use

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2013 and Beyond

• Expand GreenTRIP certifications: more projects NEW levels!
• Collect data on affordable homes and TDM – 100 sites, by Spring 2014
• Bay Area dynamic tool
• Work with cities: San Jose, Oakland, Walnut Creek, East Palo Alto, Sunnyvale, Mountain View ++
• Regional/State policy uses
GreenTRIP Announcements

www.GreenTRIP.org

• Sign Up for **Quarterly GreenTRIP News**

• Join the Linkedin Group: “**GreenTRIP Community**”
More Info & Resources:

• TransForm CHPC **White Paper** on Cap & Trade Prop 1C
• Federal Reserve Bank **Article** on GreenTRIP
• GreenTRIP Transit Agency **Info Sheet**
• **GreatCommunities.org** Toolkit
  • Senior Mobility
  • Complete Streets
  • Rational Parking
  • Parking and TDM Policy Factsheet
• **MTC Smart Growth Parking Resources**
  • [2012 Workshops](#)
  • Videos by Jeff Tumlin
  • [Parking FAQ](#) for various audiences
• **StreetsFilms – Moving Beyond the Auto Video Series**
• **GreenTRIP Videos**
• **Sightline Parking Cartoon & Infographics**
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