Understanding Transit Markets
Transit Competiveness Index

presented to
Rail~Volution: New Tools to Build Your Funding Case

presented by
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October 16, 2012
Understand Customers
- Market Segmentation
- Mode Choice Analysis

Understand Markets
- Travel patterns and other travel market conditions completely unrelated to existing transit service

Competitive Positioning

Service Planning
- Financial Resources
- Land Use Planning
- Service Branding

Transit Competitiveness Index (TCI)
Understanding Each Travel Market
Almost None of These Attributes Are Under Your Control

Origin Conditions
- Land use density
- Household characteristics
- Pedestrian environments
- Wait times
- Real time arrival information
- Walk distances
- Auto vs. transit access

O-D Conditions
- Trip volume
- Congestion
- Travel time
- Trip purposes
- Tolls
- Travel costs
- Transfers
- Reliability

Destination Conditions
- Land use density and mix
- Central Business District
- Walk distance from parking
- Parking cost
- Parking search time
- Errand accessibility
- Pedestrian environments
Interpreting the Transit Competitiveness Index
Understanding the Score of 100
Transit Competitiveness Index (TCI)
Each Factor Weighted by Ability to Generate Transit Tours

Transportation
- Tour volume
- Land use density
- Parking cost
- Congestion

Land Use Factors
- Customer Types
- Trip Purposes
- Household Characteristics
  - Income
  - Household size
  - Auto ownership

- Work
- Other

- Household Income
- Household size
- Auto ownership

- Uncompetitive
- Competitive

Transit

Tour volume
Land use density
Parking cost
Congestion

Household Income
Household size
Auto ownership
Interpreting the Transit Competitiveness Index

- Shows how competitive transit is relative to auto
- Based on all modes of travel, not current transit network or service

<table>
<thead>
<tr>
<th>Index</th>
<th>Description</th>
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<tbody>
<tr>
<td>&gt; 125</td>
<td>Strongly Competitive</td>
</tr>
<tr>
<td>100-125</td>
<td>Marginally Competitive</td>
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<tr>
<td>75-100</td>
<td>Marginally Uncompetitive</td>
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<tr>
<td>1-75</td>
<td>Uncompetitive</td>
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<tr>
<td>0</td>
<td>Little or no travel</td>
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Triage of 9 Million Daily Tours
Bay Area Travel Grouped into Five Tiers

- **Strongly Competitive**: 37%
- **Marginally Competitive**: 3%
- **Marginally Uncompetitive**: 4%
- **Uncompetitive**: 52%
- **Little or No Travel**: 56%

**Comparison:**
- **All Tours**: 33%
- **Work Tours**: 40%
Work Tours from Origin Markets

- Strongly competitive
- Marginally competitive
- Marginally uncompetitive
- Uncompetitive
- Little or no travel
Origin TCI and Transit Share
All Purposes

- High TCI, High Transit Share
- High TCI, Low Transit Share
- Low TCI
Analysis of Individual Market Work Trips From Walnut Creek to Downtown Oakland

TCI = 693

Contribution from...

<table>
<thead>
<tr>
<th>Factor</th>
<th>Value</th>
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<td>Attraction density</td>
<td>69%</td>
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<td>Production density</td>
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<tr>
<td>Parking costs</td>
<td>13%</td>
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<tr>
<td>CBD characteristics</td>
<td>20%</td>
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<tr>
<td>Auto ownership</td>
<td>-1%</td>
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<tr>
<td>Congestion</td>
<td>5%</td>
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<tr>
<td>Access from parking</td>
<td>4%</td>
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<tr>
<td>Destination diversity</td>
<td>1%</td>
</tr>
<tr>
<td>Household income</td>
<td>0%</td>
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<tr>
<td>Origin diversity</td>
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<td>Topology</td>
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<td>Toll</td>
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Distribution of Low Income Households Grouped into Five Tiers Based on Work Origin TCI

- **Strongly Competitive**: 26% Above Low Income, 43% Low Income
- **Marginally Competitive**: 3% Above Low Income, 4% Low Income
- **Marginally Uncompetitive**: 5% Above Low Income, 6% Low Income
- **Uncompetitive**: 64% Above Low Income, 45% Low Income
- **Little or No Travel**: 2% Above Low Income, 2% Low Income

*Low Income (Lifeline households)*
Line 36 Penitencia Creek Transit Center – Valley Fair/Vallco Park Proposal

Findings
- This route competes with Route 23 along Stevens Creek and with Route 62 along Naglee. There may be opportunities for consolidating service and improving service frequency in the Bascom/Naglee corridor which is within the core network area.

Proposal
It is proposed to discontinue Route 36 and reinvest resources into Route 62 and New Route 61, to provide service to the same areas.

Transit Competitiveness

Proposal Highlights
- Join the Route 36 alignment east of Coleman/Naglee to Route 62 and operate as Route 61. Routes 61 and 62 collectively will provide a high-frequency service between 1st/Naglee and Bascom/Union.

For more information www.vta.org/coe
Contact VTA at 408-321-2300 or coe@vta.org
Origin TCIs and LRT Network
Existing Stations and Proposed LRT Extensions
Destination TCIs and LRT Network
Existing Stations and Proposed LRT Extensions
Destination TCIs for San Carlos Extension
Correspondence between New Station Locations & TCIs

- 269 – 42,519 Trips
- 617 – 85,610 Trips
- 48 – 19,390 Trips
- 30 – 13,218 trips

Legend:
- 0 - 25
- 25- 50
- 51- 100
- 101 - 200
- >200
Transit Competitive Destinations
Universities and Colleges

TCI = 100

San Jose State  TCI=572
De Anza  239
San Jose City  198
West Valley – Saratoga  115
Santa Clara University  93
Mission  80
Stanford  45
Foothill  34
Evergreen  22
Transit Competitive Destinations

Downtowns

San Jose  TCI = 285
Los Gatos  TCI = 242
Palo Alto  TCI = 60
Los Altos  TCI = 146
Milpitas  TCI = 115
Sunnyvale  TCI = 107
Mountain View  TCI = 84 (Includes surrounding residential areas)
Campbell  TCI = 75
Santa Clara  TCI = 31
# Transit Competitive Destinations

**Medical Centers**

<table>
<thead>
<tr>
<th>Location</th>
<th>TCI</th>
<th>Daily Person Trips</th>
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<tbody>
<tr>
<td>Regional Medical</td>
<td>86</td>
<td>5,600</td>
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<tr>
<td>O’Connor</td>
<td>80</td>
<td>5,700</td>
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<td>Valley Medical*</td>
<td>59</td>
<td>16,600</td>
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<tr>
<td>El Camino*</td>
<td>52</td>
<td>14,400</td>
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<td>Good Samaritan*</td>
<td>52</td>
<td>8,200</td>
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<td>Stanford</td>
<td>42</td>
<td>4,000</td>
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<td>Santa Teresa</td>
<td>35</td>
<td>4,900</td>
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<tr>
<td>Palo Alto Veterans</td>
<td>24</td>
<td>6,800</td>
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* Includes surrounding residential areas
Four Applications of TCI

- **Intra-Agency Resource Allocation**
  - Expand competitive markets
  - Investigate marginal markets
  - Reduce or eliminate uncompetitive markets

- **Screening & Evaluations**
  - Quick evaluation of alternatives
  - Avoids coding transit service
  - Screen potential expansions

- **Negotiations with Jurisdictions**
  - Land use density
  - Parking price & supply
  - Transit priority treatments

- **Public Outreach & Funding**
  - Advocates
  - Voters
  - Neighborhoods
Questions and Answers

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