Regional Transportation Plans Under SB 375: Are We Moving to Sustainability?

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Overview

• Research objectives
  – Consider RTP/SCSs as sustainability plans

• Methods

• How do the plans compare?
  – Preliminary results

• Institutional and performance management innovations

• Conclusions
Our research objectives

• Evaluate RTP/SCSs of 4 largest MPOs as sustainability plans/processes
  – From written record
• Against what benchmarks?
• Three key aspects
  – Goals
  – Process
  – Plan outputs
Goals: Sustainability as planning coordination

• Across policy concerns
  – 3 E’s
  – Inter-connections, co-benefits
  – Trade-offs and limits

• Across scales
  – Temporal
  – Geographic/institutional
  – Internalize externalities

• SB 375 connects policy concerns and scales
  – T/LU/H/E
  – Federal-state-regional-local
  – RTP + RHNA + CEQA + AB32
Sustainability process

- Ideas from sustainability governance theory
  - Diverse, engaged participation
  - Iterative, “double-loop” social learning
  - Define objectives, measures, experiment (implement), reconsider

- RTPs = venue for sustainability planning
  - 3 C’s → blueprints → SCS/RTPs

- Our criteria
  - Engagement, debate, deliberation, learning
  - Coherent, legible transitions between plan stages
Sustainable transport
plan objectives and outputs

• Performance emphasis
  – Accessibility and location efficiency
  – Not just mobility or “geographic equity”

• 3 E’s impacts

• Synergistic strategies and investments
  – TLU planning coordination
  – TDM, TSM
  – Pricing
  – Non-auto mode investments
  – Fix-it-first

• SB 375 promotes sustainable transport
  – Demand-side leg of the transport GHG reduction stool
  – Coordinated transport and land use
  – Other techniques to support efficient T+LU
Our methods/measures

• Categorize plan goals and performance measures according to sustainability criteria
  – Transportation (traditional and sustainable)
  – Land use policy objectives
  – 3 E’s impacts

• Using sustainability categories, evaluate and compare across RTPs: goals, performance measures and analysis, adopted policy packages

• Consider implementation techniques
  – Performance management best practices, challenges and pitfalls
  – Institutional links and incentives that strengthen T-LU-E connection
RTPs – a venue for bargaining, debate, and social learning

**Policy issues and mandates**

Growth concerns
- Housing - supply and price
- Infrastructure - capacity constraints (congestion), state of repair
- Environment: climate, air and water quality
- Loss of open space, ag land
- Fiscal restraint
- Livability

Related mandates
- ISTEA+, CAA
- NEPA/CEQA
- Fair share housing (RHNA)
- Fair Housing Act, CRA Title XI
- AB 32, SB 375
- ESA, CWA
- Local General Plans
- Local fiscal policy (e.g. Prop 13, redevt)
- Public participation mandates

Related policy topics
- Economic development
- Education
- Environmental justice
- Gentrification/displacement
- Health
- Energy systems
- Water supply, quality, flood control

**Actors (and their interests)**

- Local governments
- Regional agencies (e.g. transit, AQMDs)
- State agencies /depts (e.g. Caltrans, HCD, ARB)
- Federal agencies/depts (e.g. FHWA, FTA, EPA, DOT)
- Organized stakeholders (e.g. homebuilders, business leaders, environmental, housing, equity activists)
- Organized opponents: Tea Party
- Community groups
- Public opinion
- Media

**RTP**

*Continuing, cooperative, comprehensive*

**Ideas and values**

- Home rule – local control of land use
- Property rights
- Sustainable development
- Social equity
How to bridge the TLU divide?

Federal

Procedural mandates
Revenue-constrained, "realistic" planning assumptions

Performance mandates
AQ + GHGs + MAP-21 + RHNA

MPO

State

Fiscal policy
Prop 13 redevelopment

Procedural mandates
CEQA + General Plans

City A

RTP/SCS

Fiscally constrained, "realistic" planning assumptions

$\$$(for transportation only)

$\$$(for transportation only)

City B

City C

Performance mandate
Fair share (RHNA)

"Smart" transportation

The great divide

"Smart" land use
Across The Great Divide

In 1876 two orphans crossed the Rockies with a frontier drifter. They lived a lifetime of adventure.

Starring ROBERT LOGAN-GEORGE "BUCK" FLOWER, introducing HEATHER BATTREY and MARK EDWARD HALL.
Stages (elements) in the RTP process

- Establishing **goals**
- Engaging with stakeholders and the public
- Developing **projections** for residential and job growth, with RHNA
- Developing **performance measures** and targets
- **Designing scenarios** for alternate development patterns and associated investments and policies
- Modeling **performance outcomes** for scenario and project options; evaluating and comparing results
- Selecting and **adopting a preferred scenario** (policy and program package) for the RTP/SCS
- Designing and adopting **implementation** measures (strategies) to achieve plan goals
- Environmental evaluation of the RTP/SCS (EIR)
- Monitoring of progress
Plan goals
# MPO plan goals by type

<table>
<thead>
<tr>
<th></th>
<th>MTC</th>
<th>SCAG</th>
<th>SANDAG</th>
<th>SACOG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation</td>
<td>40%</td>
<td>56%</td>
<td>50%</td>
<td>29%</td>
</tr>
<tr>
<td>Land use</td>
<td>7%</td>
<td>11%</td>
<td>0%</td>
<td>29%</td>
</tr>
<tr>
<td>Economy</td>
<td>7%</td>
<td>11%</td>
<td>17%</td>
<td>14%</td>
</tr>
<tr>
<td>Environment</td>
<td>13%</td>
<td>11%</td>
<td>17%</td>
<td>14%</td>
</tr>
<tr>
<td>Social equity</td>
<td>13%</td>
<td>0%</td>
<td>17%</td>
<td>14%</td>
</tr>
<tr>
<td>Quality of life</td>
<td>20%</td>
<td>11%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Source: Author's calculations from most current RTPs of the four largest California MPOs; MTC RTP Table 1; SCAG RTP Table 1.1; SANDAG plan goals, p. 2-3; SACOG RTP, MTP/SCS Guiding Principles, p. iv.
Narratives matter

- RTPs underscore market interest in infill, but narratives differ on role of local governments
  - **MTC/ABAG** emphasized *location efficiency*
    - Local barriers to infill and affordable housing
    - Controversy
  - SCAG avoided housing conflicts
    - RHNA and market trends are complementary
    - Density gaps between local plans and RTP/SCSs solved by the market
  - **SCAG** emphasized *economic benefits* of transport investments
    - Solve impending crisis from congestion
    - Support goods movement, also address air quality
- Easy to sell win-win; hard to challenge status quo
Performance measures
<table>
<thead>
<tr>
<th>Category</th>
<th>MTC</th>
<th>SCAG</th>
<th>SANDAG</th>
<th>SACOG</th>
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</thead>
<tbody>
<tr>
<td><strong>Transportation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traditional</td>
<td>40%</td>
<td>53%</td>
<td>82%</td>
<td>52%</td>
</tr>
<tr>
<td>Mobility (highways and roads)</td>
<td>7%</td>
<td>32%</td>
<td>18%</td>
<td>8%</td>
</tr>
<tr>
<td>Reliability, safety, security</td>
<td>7%</td>
<td>6%</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td>Financial sustainability</td>
<td>3%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sustainability</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efficiency (e.g. VMT)</td>
<td>33%</td>
<td>21%</td>
<td>65%</td>
<td>43%</td>
</tr>
<tr>
<td>Non-SOV mobility and productivity</td>
<td></td>
<td></td>
<td>17%</td>
<td></td>
</tr>
<tr>
<td>Mode share, shift to non-SOV</td>
<td>7%</td>
<td>15%</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td>System preservation</td>
<td>20%</td>
<td>3%</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>Accessibility</td>
<td>18%</td>
<td>24%</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td><strong>Land use</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compact growth, TOD</td>
<td>3%</td>
<td>6%</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>Housing affordability and supply</td>
<td></td>
<td></td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td><strong>Economy</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Environment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality of life</td>
<td>20%</td>
<td>6%</td>
<td>3%</td>
<td>8%</td>
</tr>
<tr>
<td>Social equity</td>
<td>17%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T and H costs</td>
<td>7%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental justice</td>
<td>7%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Displacement and gentrification</td>
<td>3%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>n=</td>
<td>15</td>
<td>17</td>
<td>34</td>
<td>60</td>
</tr>
</tbody>
</table>

Sources: Author’s calculations from current RTPs; MTC RTP Table 1; SCAG RTP Table 5.1; SANDAG RTP Table 2.2; SACOG Appendix G-6.
Performance measures: Best practices and emerging challenges

• Best practices
  – MTC’s integrated and concise goals/performance measures (performance measures as targets, not just indicators of direction)
  – **MTC’s gentrification/displacement measure**
  – **MTC’s elimination of any delay measures**
  – SACOG’s extensive environmental and land use measures
  – SANDAG’s consistent (across-RTP), clearly presented results
  – SCAG’s extensive economic and cost-benefit evaluation
    • Including local fiscal effects

• Challenges
  – *Inconsistent performance measures* across MPOs and RTP years
  – Makes performance tracking **VERY** difficult
Population and housing projections
Multi-unit residential building permits are rising as a share of all permits

Source: US Census Housing Starts data
Housing projections: SCS vs. RHNA?

• MPOs point to market interest in infill...
• ...but also identify PDAs (infill zones)
  – For modeling and/or implementation?
• MTC/ABAG uses PDAs as a political strategy
  – Astute politically, but potential conflict with RHNA requirements
• How well does RHNA mesh with compact growth?
  – Include smart growth factors in RHNA allocation?
  – RHNA prohibits local zoning as a basis for allocation
  – HUD and HCD letters, lawsuit threat
• Best practice: MTC included housing production as a RHNA allocation factor
Scenario planning and analysis
Role of scenario planning/analysis

- **Purpose and method**
  - Evaluate investment/policy options against performance criteria
  - Model long-term effects of alternate plan scenarios

- **Variants**
  - Traditional, for environmental review: Model adopted plan scenario against “no project” and environmentally superior alternatives
  - Educational for public workshops: “Goldilocks” land use scenarios (trend, denser, densest)
  - Hypothetical transport investments: modal emphases
  - Test SB 375 compliance (GHG targets; no spillover growth)

- **Best practice:** *Scenarios designed by stakeholders*
  - MTC
Scenario planning/analysis

- **Key questions**
  - Who designs the scenarios?
  - How to make them transparent for stakeholders?
  - Are they mainly hypothetical/educational? Or the basis for open debate on final plan package?
  - Can you clearly see strengths & weaknesses of the final plan scenario vis-à-vis other modeled options?
  - Or is the final scenario a “black box”?
The difference between modeled performance outcomes across tested scenarios can be vanishingly small.

### MTC scenario modeling results: 2040 performance in comparison to year 2005 baseline conditions

<table>
<thead>
<tr>
<th>Target</th>
<th>Description</th>
<th>Goal</th>
<th>No Project</th>
<th>Preferred</th>
<th>Transit Priority Focus</th>
<th>Enhanced Network of Communities</th>
<th>Environment, Equity, and Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reduce CO2 emissions</td>
<td>-15%</td>
<td>-8%</td>
<td>-18%</td>
<td>-16%</td>
<td>-16%</td>
<td>-17%</td>
</tr>
<tr>
<td>2</td>
<td>House 100% of the region’s projected growth</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>118%</td>
<td>100%</td>
</tr>
<tr>
<td>3</td>
<td>Reduce exposure to particulate emissions.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3a</td>
<td>Reduce premature deaths from exposure to fine particulates (P2.5) by 10%</td>
<td>-10%</td>
<td>71%</td>
<td>71%</td>
<td>-72%</td>
<td>-69%</td>
<td>-72%</td>
</tr>
<tr>
<td>3b</td>
<td>Reduce coarse particulate emissions (PM10) by 30%</td>
<td>-30%</td>
<td>-16%</td>
<td>-17%</td>
<td>-17%</td>
<td>-14%</td>
<td>-18%</td>
</tr>
<tr>
<td>3c</td>
<td>Achieve greater reductions in highly impacted areas.</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Reduce by 50% the number of injuries and fatalities from all collisions (including bike and pedestrian).</td>
<td>-50%</td>
<td>18%</td>
<td>18%</td>
<td>17%</td>
<td>23%</td>
<td>16%</td>
</tr>
<tr>
<td>5</td>
<td>Increase the average daily time walking or biking per person by 70% (average of 15 minutes per person/day).</td>
<td>70%</td>
<td>12%</td>
<td>17%</td>
<td>18%</td>
<td>13%</td>
<td>20%</td>
</tr>
<tr>
<td>6</td>
<td>Direct all non-agricultural development within the urban footprint (existing urban development and UGBs).</td>
<td>100%</td>
<td>53%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>7</td>
<td>Decrease the share of low-and lower-middle income residents’ household income consumed by transportation and housing.</td>
<td>-10%</td>
<td>8%</td>
<td>3%</td>
<td>5%</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>8</td>
<td>Increase gross regional product by an average annual growth rate of 2% (+90% target for 2035).</td>
<td>110%</td>
<td>118%</td>
<td>119%</td>
<td>118%</td>
<td>123%</td>
<td>118%</td>
</tr>
<tr>
<td>9</td>
<td>Increase non-auto mode share by 10% and decrease automobile VMT per capita by 10%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9a</td>
<td>Increase non-auto mode share by 10 percentage points (to 26% of trips).</td>
<td>26%</td>
<td>19%</td>
<td>20%</td>
<td>20%</td>
<td>19%</td>
<td>21%</td>
</tr>
<tr>
<td>9b</td>
<td>Decrease auto VMT per capita by 10%.</td>
<td>-10%</td>
<td>-5%</td>
<td>-9%</td>
<td>-8%</td>
<td>-9%</td>
<td>-9%</td>
</tr>
<tr>
<td>10</td>
<td>Maintain the transportation system in a state of good repair</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10a</td>
<td>Increase local road pavement condition index (PCI) to 75 or better</td>
<td>19%</td>
<td>-21%</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>13%</td>
</tr>
<tr>
<td>10b</td>
<td>Decrease distressed lane-miles of state highways to less than 10% of total.</td>
<td>-63%</td>
<td>63%</td>
<td>63%</td>
<td>63%</td>
<td>11%</td>
<td>52%</td>
</tr>
<tr>
<td>10c</td>
<td>Reduce the share of transit assets past their useful life to 0 percent.</td>
<td>-100%</td>
<td>179%</td>
<td>88%</td>
<td>88%</td>
<td>88%</td>
<td>88%</td>
</tr>
</tbody>
</table>

Source: MTC RTP, Performance report, Table 10
Why is the difference in performance results so small?

- MPOs have discretion over a small portion of funds in each RTP
  - (15% of capital funds, on average, for Cal MPOs)
  - Most projects are already committed (carry-over)
  - MPOs do not directly control most funding sources

- Transportation and land use changes work at the margin
  - Hard to “push the needle”
  - But cumulative effects can be self-reinforcing

- Scenario design may not be aggressive
  - How aggressive is realistic?
  - One complaint in lawsuit against SANDAG

- State policy action could help
  - SB 375 is a voluntary, collaborative process
  - Requires adequate incentives for localities to support RTP/SCSs with aggressive land use policies
Performance objectives (results) in final adopted plan scenarios
Recent trend in system-wide VMT per capita: Declining except for SCAG

Source: Caltrans, Public Roads Data
Small continuing declines in per capita VMT are projected in SCS/RTPs

Note: For comparability, SANDAG results are to 2035 (not to 2050 plan year); SCAG data is calculated per capita using population statistics
Sources: Last three (including current) RTPs from four largest Cal MPOs, multiple tables
Recent trend in non-auto mode share to work: rising except for SANDAG

Sources: US Census, 2000, and American Community Survey 2009-2013
Non-auto mode share projected to rise in RTP/SCSs, especially for SANDAG

Note: Data is for all trips, except for SANDAG, with data for peak period commute. SANDAG results are to 2035.
Sources: Last three (including current) RTPs from four largest Cal MPOs, multiple tables
Congestion projected to decline except in SFBA plan

Note: SANDAG results are to 2035.
Sources: Last three (including current) RTPs from four largest Cal MPOs, multiple tables
Current system capacity:
LA and Sacto have the most roadway capacity, SFBA the most transit capacity per capita

Source: Memo from the 4 MPOs to ARB for SB 375 target-setting, 2010
SACOG and MTC project the steepest declines in freeway lane miles per capita (per 1,000); only SANDAG projects an increase.

Note: SANDAG results are to 2035.
Sources: Last three (including current) RTPs from four largest Cal MPOs, multiple tables.
SANDAG and SACOG project the fastest increases in per capita transit capacity

Note: SANDAG results are to 2035.
Sources: Last three (including current) RTPs from four largest Cal MPOs
MTC/ABAG projects the fastest increase in multifamily + attached housing share

Share of new homes

- Multifamily and attached
- Single family detached

Sources: MTC, EIR Table 2.3-2; SCAG, RTP p. 129; SANDAG RTP Table 3.2, with data to 2035 for comparability (not to 2050); SACOG RTP p.40.
Implementation
Share of MPO budget for M&O and rehab

Sources: MTC RTP EIR, Table 1.2-10; SCAG RTP Table 16; SANDAG RTP Table 5.2; SACOG RTP Table 4.1.
Share of MPO budget for transit

Sources: MTC RTP EIR, Table 1.2-10; SCAG RTP Table 16; SANDAG RTP Table 5.2; SACOG RTP Table 4.1.
Institutional innovations

- Performance management/measurement
  - *MTC’s gentrification displacement measure*
  - *SCAG’s local government fiscal effects measure*
  - MTC’s Transit Performance Strategy

- T-LU integration strategies
  - **Inside strategies**
    - PDAs and PCAs: infill zones
    - *Smart growth incentive grant programs: resources for infill*
      - *MTC’s OBAG – politically astute, possibly illegal?*
    - MTC’s Res. 3434/TOD strategy: tie transit to supportive LU
      - MTC’s Transit-Oriented Affordable Housing (TOAH) Fund
    - *SACOG’s SB 375 CEQA streamlining checklist*
  - **Outside strategies**
    - *SACOG’s Rural-Urban Connection Strategy*
    - *SANDAG’s TransNet habitat funding strategy*
Conclusions

• The four MPOs are transitioning to sustainability planning, incrementally
• Some MPOs face challenges under SB 375, e.g. MTC
• Cal MPOs are institutional innovators (by necessity)
  – However, some TLU innovations, such as OBAG, are hampered by inconsistency in state goals and laws (RHNA vs. SB 375)
• 3 E’s tensions are surfacing
  – Harder to address when state mandates are inconsistent
Conclusions (cont.)

- New state policies and programs finally provide support
  - SGC grants
  - SB 743

- But more could be done
  - Reliable funding for transit and affordable housing
  - Redevelopment reprise tied to sustainability criteria
  - Bond funding for SCS infrastructure

- Need incentives for localities to support RTP/SCS objectives

- State should recommend a set of standardized performance indicators
  - Inconsistent performance measurement makes sustainability monitoring difficult