Bruce Appleyard, Ph.D.
Assistant Professor, San Diego State University

Christopher E. Ferrell, Ph.D.
Principal, CFA Consultants

Matthew Taecker
TCRP H-45 *Livable Transit Corridors: Methods, Metrics and Strategies*

a nationwide quality of life analysis of over 350 transit corridors and thousands of stations in the U.S.

*Handbook for Building Livable Transit Corridors*

*Livability Calculator*

*Innovative Transportation Calculator*

Bruce Appleyard, Ph.D.
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Matthew Taecker
HUD/USDOT/EPA Livability Principles

Partnership for Sustainable Communities' Livability Principles

- Provide more transportation choices
- Promote equitable and affordable housing
- Enhance economic competitiveness
- Support existing communities
- Coordinate and leverage federal policies and investments
- Value communities and neighborhoods

Livability Performance Principles

Livability Performance

- High-quality transit, walking, and bicycling opportunities
- Healthy, safe & walkable transit corridor neighborhoods
- Vibrant & accessible community, cultural & recreational opportunities
- Accessible social & government services
- Mixed income housing near transit
- Transit-accessible economic opportunities
5 Steps for Livable Transit Corridor Planning

1. Initiate Project
2. Assess the Corridor
3. Identify Goals
4. Develop a Vision
5. Implement Strategies

Scoping → Livability Calculator → Visioning → Policies & Programs
Livability Calculator
Livability Calculator:

The worksheet displays the metric scores for each state corridor, based on the various criteria that were entered into the metric calculator. The metric scores are represented by individual metric performance of your corridor metric scores, which represent values greater than one standard deviation for all U.S. transit corridors evaluated in the study as a “4” or greater and less than a standard deviation at less than “3”. As a reference, the horizontal line representing the average scores for the three most corridor types studied in this research project are indicated for Emerging, Yellow, or Transit Corridors, and green for Integrated Corridors.

**STEP 2: EXPLORE METRIC SCORES**

The following table displays the correlation between associated outputs with metric scores:

<table>
<thead>
<tr>
<th>Metric</th>
<th>Measure</th>
<th>Correlation Coefficient</th>
<th>Pearson Correlation</th>
<th>Spearman Correlation</th>
<th>Kendall Correlation</th>
<th>Monthly Dwell Time</th>
<th>Annual Dwell Time</th>
<th>Transit Corridor Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transit Corridor Type</td>
<td>Overall Corridor Score</td>
<td>0.90</td>
<td>0.90</td>
<td>0.90</td>
<td>0.90</td>
<td>0.90</td>
<td>0.90</td>
<td>0.90</td>
</tr>
<tr>
<td>Transit Corridor Type</td>
<td>Transit Corridor Cost</td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
</tr>
<tr>
<td>Transit Corridor Type</td>
<td>Transit Corridor Efficiency</td>
<td>0.70</td>
<td>0.70</td>
<td>0.70</td>
<td>0.70</td>
<td>0.70</td>
<td>0.70</td>
<td>0.70</td>
</tr>
</tbody>
</table>

**NOTE:** The following table displays the metric scores associated with each metric:

<table>
<thead>
<tr>
<th>Measure</th>
<th>Transit Corridor Type</th>
<th>Overall Corridor Score</th>
<th>Transit Corridor Cost</th>
<th>Transit Corridor Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transit Corridor Type</td>
<td>Overall Corridor Score</td>
<td>0.90</td>
<td>0.90</td>
<td>0.90</td>
</tr>
<tr>
<td>Transit Corridor Type</td>
<td>Transit Corridor Cost</td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
</tr>
<tr>
<td>Transit Corridor Type</td>
<td>Transit Corridor Efficiency</td>
<td>0.70</td>
<td>0.70</td>
<td>0.70</td>
</tr>
</tbody>
</table>
STEP 3: LIVABILITY PERFORMANCE GRAPH

- This chart plots the performance of your study corridor (based on the census block groups you inserted into the Inputs worksheet) in relation to the three corridor types (Emerging Corridor, Transitioning Corridor, and Integrated Corridor).

### Livability Performance

<table>
<thead>
<tr>
<th>Corridor Type</th>
<th>Performance Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emerging</td>
<td>2.94</td>
<td>High-quality transit, walking, and biking opportunities</td>
</tr>
<tr>
<td>Transitioning</td>
<td>2.68</td>
<td>Mixed-income housing opportunities</td>
</tr>
<tr>
<td>Integrated</td>
<td>3.12</td>
<td>Accessible social &amp; government services</td>
</tr>
<tr>
<td></td>
<td>2.94</td>
<td>Vibrant &amp; accessible community, cultural &amp; recreational opportunities</td>
</tr>
<tr>
<td></td>
<td>2.94</td>
<td>Healthy, safe &amp; walkable neighborhoods</td>
</tr>
<tr>
<td></td>
<td>2.94</td>
<td>Vibrant &amp; walkable neighborhoods</td>
</tr>
<tr>
<td></td>
<td>2.94</td>
<td>Transit-oriented economic opportunities</td>
</tr>
</tbody>
</table>

The chart shows the performance of your study corridor in relation to the three corridor types. Each axis of the chart represents one of the six livability principles. The red area of the chart delineates the thresholds for Emerging Corridors, the yellow area delineates the thresholds for Transitioning Corridors, and the green area delineates the thresholds for Integrated Corridors. The black line in the chart represents your study area, and the shape of the line indicates the performance. Cases where the black line is near the outer edge of the chart indicate strong performance for that principle, whereas cases where the black line is near the center of the chart indicate poor performance for that principle.
## Step 4: Select Strategies to Address Metric Performance

This worksheet allows you to assess the performance of the transit census block groups across all the metrics. Strategies and goals can also be selected using the checklist below in order to address performance concerns. Prioritize the list by selecting new strategies to ensure that strategies related to the Transportation Corridor typology, underlined in red, indicate performance consistent with the integrated corridor typology. It follows that strategies associated with areas of poor performance should be prioritized most urgently.

<table>
<thead>
<tr>
<th>Principle</th>
<th>Metric Performance</th>
<th>Regional Access</th>
<th>Accessibility</th>
<th>Land Use</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-quality transit, walking, and bicycling opportunities</td>
<td>Transit jobs accessibility</td>
<td>Controlled Network Planning</td>
<td>Complete Streets</td>
<td>Affordable Housing</td>
<td>Complete Streets</td>
</tr>
<tr>
<td></td>
<td>Transit service coverage</td>
<td>Circulator Route Retrofit</td>
<td>Complete Streets</td>
<td>Transit Policy</td>
<td>Complete Streets</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transit Frequency and Reliability</td>
<td>Complete Streets</td>
<td>Transit Policy</td>
<td>Complete Streets</td>
</tr>
<tr>
<td>Mixed income housing near transit</td>
<td>Housing unaffordability</td>
<td>Controlled Network Planning</td>
<td>Complete Streets</td>
<td>Inland Development</td>
<td>Complete Streets</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Circulator Route Retrofit</td>
<td>Complete Streets</td>
<td>Inland Development</td>
<td>Complete Streets</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transit Frequency and Reliability</td>
<td>Complete Streets</td>
<td>Inland Development</td>
<td>Complete Streets</td>
</tr>
<tr>
<td>Transit-accessible economic opportunities</td>
<td>Income diversity</td>
<td>Controlled Network Planning</td>
<td>Complete Streets</td>
<td>Public Transportation</td>
<td>Complete Streets</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Circulator Route Retrofit</td>
<td>Complete Streets</td>
<td>Public Transportation</td>
<td>Complete Streets</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transit Frequency and Reliability</td>
<td>Complete Streets</td>
<td>Public Transportation</td>
<td>Complete Streets</td>
</tr>
</tbody>
</table>

**Legend:**
- Integrated Corridor
- Transitory Corridor
- Emerging Corridor
- Data Not Available
## Dynamic Strategy Selection

**Step 5: View Selected Strategies**

This worksheet displays all the strategies selected in the previous worksheet. Clicking the hyperlink in the "Handbook Page Reference" column will open the user manual to the relevant page, allowing you to learn more about the strategy. Please be sure to close the hyperlink in the same window as the worksheet. Each hyperlink will open a new window in Adobe Reader. Please close unwanted windows to avoid complications.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Handbook Page Reference</th>
<th>Number of Issues Covered</th>
<th>Number of Principles Covered</th>
<th>Principle Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transit First Subsidized</td>
<td>Page 120</td>
<td>Demand Management</td>
<td>High-quality transit, walking, and bicycling opportunities</td>
<td>Mixed income housing near transit</td>
</tr>
<tr>
<td>Anti-Displacement Strategies</td>
<td>Page 130</td>
<td>Affordability</td>
<td>Mixed income housing near transit</td>
<td></td>
</tr>
<tr>
<td>Form-Based Code (housing type flexibility)</td>
<td>Page 140</td>
<td>Affordability, Affordability, Stability</td>
<td>Mixed income housing near transit</td>
<td></td>
</tr>
<tr>
<td>Housing Production &amp; Targets</td>
<td>Page 150</td>
<td>Affordability</td>
<td>Mixed income housing near transit</td>
<td></td>
</tr>
<tr>
<td>Inclusionary Housing</td>
<td>Page 160</td>
<td>Affordability, Stability</td>
<td>Mixed income housing near transit</td>
<td></td>
</tr>
<tr>
<td>Local Affordable &amp; In Development</td>
<td>Page 170</td>
<td>Affordability, Stability and Growth</td>
<td>Mixed income housing near transit</td>
<td></td>
</tr>
<tr>
<td>Local Housing Trust Funds</td>
<td>Page 180</td>
<td>Affordability</td>
<td>Mixed income housing near transit</td>
<td></td>
</tr>
<tr>
<td>Infrastructureenny</td>
<td>Page 190</td>
<td>Affordability</td>
<td>Mixed income housing near transit</td>
<td></td>
</tr>
</tbody>
</table>

**Welcome**
- (1) Inputs
- (2) Additive Scores
- (3) Usability Performance
- (4) Strategy Selection
- (5) Strategy Summary
Innovative Transportation Calculator

Smart Mobility Framework Implementation Project
Sustainable South Bay (LA) Strategies Project
Funded by Caltrans and the Strategic Growth Council

Presentation to SBCC
By Bruce Appleyard, PhD
September 8, 2014
An Approach Toward Measuring Livability (Access & Prosperity)?

Problem Understanding:
• Decision Domains &
• Actors/Agents

Problem Solving:
• Frameworks
• Ethics
Big Problem: The T LU Imbalance “Tribal”

Local: City/County

Neighborhood

Site

Local Governments

Banks/ Financial Institutions

Developers

Realtors

Customers and/or NIMBYs

Transportation

Vertical/Consolidated

Regional MPOs COGs

FED & STATE DOTs

Land Use

Horizontal/Fragmented

Bruce Appleyard, 2007

Vicious Cycle

Sprawl/ Jobs-Housing Imbalance

Roads/Car Dependence

Congestion Pollution
A transportation & land use imbalance leads to auto-dependent sprawl and congestion
…and to a sub-optimal realization of benefits from transit investments
Future Work:
Housing Energy Consumption by Location

![Chart showing Concord and Berkeley energy consumption by month and location.]

- Concord Cooling energy (kWh/sq. ft.)
- Concord Heating Energy (kWh/sq. ft.)
- Berkeley Cooling Energy (kWh/sq. ft.)
- Berkeley Heating Energy (kWh/sq. ft.)
Approach Overview: Definitions

Transportation/Land Use Integration & Balance

Access to Opportunity

Ethics (Equity)

Ecological Economy

Comprehensive Livability & Placemaking

Context
Place
Identity
Health
Spirituality

Equity
Access
To Opportunity
Affordability

Triple Bottom Line of Livability
Transportation Land Use Integration for Livability (TLI4L) Definition/Mission Statement

Integrating transportation and land use to create and steward the equitable access to opportunities for people to pursue and/or maintain fundamental quality of life needs,

without obstructing similar livability pursuits of others, especially society’s less powerful and most vulnerable.

The Metrics (Dimensions) of Livability

Design

Density

Local Accessibility

• Jobs
• Affordable housing
• Shopping (retail employee density)
• Health care services
• Arts & culture

Diversity
The Metrics (Dimensions) of Livability

Housing Affordability

Socio-Economic Diversity

Regional Accessibility

Balanced Transit Ridership

Safety

Transit service coverage (frequency of transit service per sq. mile)
<table>
<thead>
<tr>
<th>USDOT/EPA/HUD Partnership Principles</th>
<th>Transit Corridor Livability (TCL) Principles</th>
<th>Factor Category</th>
<th>Factor Name</th>
<th>Metric Description</th>
<th>Data Source(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide more transportation choices</td>
<td>High-quality transit, walking, and bicycling opportunities</td>
<td>Place</td>
<td>Regional Access</td>
<td>Transit jobs accessibility</td>
<td>Environmental Protection Agency’s Smart Locations Database (SLD)</td>
</tr>
<tr>
<td>People</td>
<td>Transit and non-auto service quality</td>
<td>Corridor Transit Service Coverage (aggregate frequency of transit service per square mile)</td>
<td>SLD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Promote equitable, affordable housing</td>
<td>Mixed income housing near transit</td>
<td>Place</td>
<td>Mixed income housing</td>
<td>Corridor housing affordability burden (percent of income spent for housing)</td>
<td>SLD</td>
</tr>
<tr>
<td>People</td>
<td>Economically and age-diverse population</td>
<td>Corridor income diversity (Variance from regional median household income)</td>
<td>American Community Survey/U.S. Census</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enhance economic competitiveness</td>
<td>Transit-accessible economic opportunities</td>
<td>Place</td>
<td>Employment opportunities</td>
<td>Corridor jobs density (employees/acre)</td>
<td>SLD</td>
</tr>
<tr>
<td>People</td>
<td>Consumer opportunities</td>
<td>Corridor retail jobs density (corridor retail employees/acre)</td>
<td>SLD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support existing communities</td>
<td>Accessible social &amp; government services</td>
<td>Place</td>
<td>Effective services</td>
<td>Corridor transit balance of ridership flows</td>
<td>Transit agency ridership survey data</td>
</tr>
<tr>
<td>People</td>
<td>Accessible services</td>
<td>Corridor health care opportunities (health care employees/acre)</td>
<td>SLD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coordinate and leverage federal policies and investment</td>
<td>Vibrant &amp; accessible community, cultural &amp; recreational opportunities</td>
<td>Place</td>
<td>Urban form</td>
<td>Corridor density (population/acre)</td>
<td>SLD</td>
</tr>
<tr>
<td>People</td>
<td>Cultural &amp; recreational opportunities</td>
<td>Access to culture &amp; arts (# corridor arts employees/acre)</td>
<td>SLD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value communities and neighborhoods</td>
<td>Healthy, safe &amp; walkable transit corridor neighborhoods</td>
<td>Place</td>
<td>Pedestrian-oriented environment</td>
<td>Corridor pedestrian environment (intersection density)</td>
<td>SLD</td>
</tr>
<tr>
<td>People</td>
<td>Neighborhood safety</td>
<td>Corridor pedestrian collisions per capita</td>
<td>California’s Transportation Injury Mapping System (TIMS)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
STEP 3: LIVABILITY PERFORMANCE GRAPH

- This chart plots the performance of your study corridor (based on the census block groups you inserted into the Inputs worksheet) in relation to the three corridor types (Emerging Corridor, Transitioning Corridor, and Integrated Corridor).
Transportation Land Use Integration for Livability (TLI4L) Station Typology
Validation

Washington DC
How to Create Livable Transit Corridors: Infrastructure Investment As Leverage

- Re-orientated Metro from the middle of Interstate 66 to a struggling retail corridor
How They Did It With Land Use: Focusing Development Around Stations

- County adopted a General Land Use Plan (GLUP) indicating willingness to rezone to higher densities within a 1/4 mile around Metro stations
- But land remained zoned for fairly low density, motivating developers to seek rezoning
- In exchange for incorporation of TOD supporting elements, County approved rezoning for higher densities
- Consistency established trust with developers
## Factor Analysis and Linear Regression Model Results

**Dependent Variable: Non-Automobile Mode Split Percentage**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factor 1: Transportation/Land Use Integration/Livability Opportunities</strong></td>
<td></td>
<td>***</td>
</tr>
<tr>
<td>Transit jobs accessibility</td>
<td>0.3970</td>
<td>***</td>
</tr>
<tr>
<td>Transit service coverage (aggregate frequency of transit service per square mile)</td>
<td></td>
<td>***</td>
</tr>
<tr>
<td>Housing unaffordability (percent of income spent for housing)</td>
<td></td>
<td>***</td>
</tr>
<tr>
<td>Jobs density (employees / acre)</td>
<td></td>
<td>***</td>
</tr>
<tr>
<td>Retail jobs density (retail employees / acre)</td>
<td></td>
<td>***</td>
</tr>
<tr>
<td>Transit balance of ridership flows</td>
<td></td>
<td>***</td>
</tr>
<tr>
<td>Health care opportunities (health care employees/ acre)</td>
<td></td>
<td>***</td>
</tr>
<tr>
<td>Population density (population / acre)</td>
<td></td>
<td>***</td>
</tr>
<tr>
<td>Access to culture &amp; arts (# corridor entertainment employees / acre)</td>
<td></td>
<td>***</td>
</tr>
<tr>
<td>Destination TAZ Population Density</td>
<td></td>
<td>***</td>
</tr>
<tr>
<td>Destination TAZ Mixed Use (Jobs-Housing Balance)</td>
<td></td>
<td>***</td>
</tr>
<tr>
<td><strong>Factor 2: Housing and Transportation Affordability (negative in factor analysis)</strong></td>
<td>0.0254</td>
<td>***</td>
</tr>
<tr>
<td>Housing unaffordability (percent of income spent for housing)</td>
<td></td>
<td>***</td>
</tr>
<tr>
<td>Median Commute Distance</td>
<td></td>
<td>***</td>
</tr>
<tr>
<td><strong>Factor 3: Income Diversity</strong></td>
<td>0.1230</td>
<td>***</td>
</tr>
<tr>
<td>Income diversity (Variance from regional median household income)</td>
<td></td>
<td>***</td>
</tr>
<tr>
<td><strong>Healthy, safe, walkable transit corridor neighborhoods</strong></td>
<td></td>
<td>***</td>
</tr>
<tr>
<td>Pedestrian environment (intersection density)</td>
<td>0.3480</td>
<td>***</td>
</tr>
<tr>
<td>Pedestrian collisions per 100,000 pedestrians</td>
<td>-0.2090</td>
<td>***</td>
</tr>
<tr>
<td>Constant</td>
<td>0.0410</td>
<td>***</td>
</tr>
<tr>
<td>Model Fit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>278</td>
<td></td>
</tr>
<tr>
<td>R Square</td>
<td>0.920</td>
<td></td>
</tr>
</tbody>
</table>

Notes:

* = p < 0.10
** = p < 0.05
*** = p < 0.01
QOL Validation

Transportation
Land Use Integration
Density
Diversity
Design
Destination Accessibility

Walk  Bike  Transit  Traffic Fatalities Per 100k

=  

161%  -1.3 person  (-21%)
QOL Validation

Household Costs

HH Transport Costs

Median Commute Distance

Unemployment Rates

= $115 sq. ft. $-2,737 -4.9 Miles -1.0%

(-27%) (-49%)
Transportation Land Use Integration
  Density
  Diversity
  Design
  Destination Accessibility

QOL Validation

Obesity Rates
  -7% (- 2. %)

Voting Rates
  19.38% (3.38%)

Volunteer Rates
  14.58 % (3.38%)

Miles Driven (VMT) Annually
  $\$$\$$\$$
  -6,162 Miles
  About 3 Tons of Carbon
What? Why? How?

- “What are we trying to measure?”
- “Why this particular metric?”
  - Basically, what does the metric tell us?
  - Determine through empirical research, theory, and the association measures have to policy,

  • For example, research tells us that regional accessibility/centrality is one of the strongest predictors of lowering VMT and auto use (2).

  • The 3 Ds (Density, Diversity Design) work well because they are relatively straightforward measures of walkability, and have a relatively clear tie to policy.
How is the metric going to be used?

PURPOSE: At least four purposes:
- Initial Assessment (Diagnosis):
- Policy Decision-making (Prognosis);
- Forecasting;
- Monitoring (Livability Ethics);
Metro Countywide Sustainability Planning Policy

[Diagram showing a matrix with axes for Residential Density and Employment Centrality, divided into four quadrants labeled A, B, C, and D, with different colors and symbols representing different levels of sustainability or planning strategies.]
SMF/CSPP Measures to Guide Land Use & Transportation Decisions

**Policy/Strategy Selection (Prognosis)**

**Assessment (Diagnosis)**

- **Centrality (Job Access)**
  - **A**: Low Job Access, High Population
  - **B**: High Job Access, Low Population

- **Population Density (SMF: Community Design)**
  - NEV, Bicycle, Walking Facilities

**Outcomes/Benefits/Monitoring**

- **C & D**
  - High Job Access, High Population
  - Transportation: Local AND Subregional Priority for Ped/Bike/NEV/Transit Nodes

- **Outcomes/Benefits/Monitoring**
  - Consistency with SCAG Sustainable Communities Strategy
  - Acres of Land Consumed
  - VMT Reduction Due to Land Use Strategy
  - Percentage of Trips by Cycling, Walking, NEV, Transit
  - VMT per Capita by Speed Range Relative to State and Regional Goals
  - Quantities of Criterion Pollutants and GHG's
  - Modal Travel Time and Cost between Representative Locations
  - Average Vehicle Occupancy
“Who?”

- Who are the best agencies to either generate, disseminate, and/or act upon these measures?

“How?” & “Where?”

- Are these measure going to be acted upon?
Big Problem: The T LU Imbalance

“Tribal”

Local: City/County

Neighborhood

Site

Local Governments

Banks/Financial Institutions

Developers

Realtors

Customers and/or NIMBYs

FED & STATE DOTs

Regional MPOs COGs

Transportation

Vertical/Consolidated

Land Use

Horizontal/Fragmented

Vicious Cycle

Sprawl/ Jobs-Housing Imbalance

Roads/Car Dependence

Congestion

Pollution

Bruce Appleyard, 2007
Illustration of how Livability Metrics can be used to Guide Corridor Livability Strategies

<table>
<thead>
<tr>
<th>Production of Metric</th>
<th>Use of Metric</th>
<th>Action upon Metric</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Access Via Transit (Jobs within 30 Minutes)</td>
<td>Transit Planner</td>
<td>High Job Access?</td>
<td>High Job Access?</td>
</tr>
<tr>
<td>Land Use Planner</td>
<td>Zone For More Housing</td>
<td>Sufficient Affordable Housing?</td>
<td>Zone For More Affordable Housing</td>
</tr>
<tr>
<td>Local Traffic Engineer/Planner</td>
<td>Zone For More Jobs</td>
<td>Yes</td>
<td>Ped/Bike/Transit Facilities</td>
</tr>
<tr>
<td>MPO</td>
<td>Facilitate Collaboration</td>
<td>No</td>
<td>Achieve High Job Access Along Corridor</td>
</tr>
</tbody>
</table>

Yes

Yes

No

Yes

No
Transportation

Who Acquires/Calculates Regional Accessibility Measure

- Land use employment data
- Transportation facility and operations

Knowledge:
- Regional Accessibility Measure
- Indicator, Performance Measure
- Research Tested

Context:
- Community Target Setting

Knowledge Transfer

Regional Accessibility

Regional Perspective: Regional Accessibility Performance Measure

Local Government: Transit Oriented Development
- Density
- Diversity
- Design

Land Use

Responsibility to Act upon the PM
Essential Measures for Land Use/Transportation Strategy Decisions

Responsibility to Act upon Measures

Fed/State/Regional Incentives For Development

Regional Accessibility
Jobs
Within 30’ of Transit & 20’ Auto

Occ. Matched Jobs
Within 30’ of Transit & 20’ Auto
of Low-income Housing

Housing & Transportation Index

LEMs

Regional Access between Jobs/housing

Density
Diversity
Design

Transit Oriented Development

Regional Perspective

Local Perspective

Flexible, Inclusive Zoning

Walkability

Transit Access

Transportation Infrastructure & Incentives

Local Government

Developer Incentives

Accessible Affordable Housing (near transit)

Housing Affordability

Affordable Housing Incentives

Number of Affordable homes and rental units
Near employment centers and/or well-served by transit

• Transit trips per capita
• Workers commuting by transit, bicycle, or foot
• Vehicle miles traveled per capita

Demand
Local Accessibility
Network walkscore
Transit score
Supply
Intersection Density
Transit LOS

Policy Solutions In Red
5 Steps for Livable Transit Corridor Planning

1. Initiate Project
2. Assess the Corridor
3. Identify Goals
4. Develop a Vision
5. Implement Strategies

Scoping | Livability Calculator | Visioning | Policies & Programs
What is the location of your friends and acquaintances?

- Light vs. Heavy:
  - 3 x Local Friends
  - 2 x Acquaintances

FIGURE 3.
San Francisco. Neighboring and visiting on three streets: lines show where people said they had friends or acquaintances. Dots show where people are said to gather.
What is the extent of your home territory?
What is the extent of your home territory?

Additional Findings:

▲ Traffic
▼ Neighborhood pride
▼ Property values
Big Solution: Multiple Perspectives For Realizing Sustainability, Livability and Equity “Beyond Tribes”
thank you very much!

Questions and Discussion

www.livabilitycalculator.com