Our Program

Not Your Father’s Transportation System
Jim Charlier, Charlier Associates, Inc., Boulder CO

Value Capture Funding for Transit
Roger Hoffmann, Northern Colorado Commuter Rail

Discussion
Agenda

1. Context
2. Federal transportation funding
3. State transportation funding
4. Implications
5. Colorado case study
6. Q & A, Discussion
1. Context
times are a changin’
VMT – vehicle miles of travel
United States

Population & VMT

1955

<table>
<thead>
<tr>
<th>Year</th>
<th>Pop. (millions)</th>
<th>VMT (trillions)</th>
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</thead>
<tbody>
<tr>
<td>1955</td>
<td>166</td>
<td>0.6</td>
</tr>
<tr>
<td>1980</td>
<td>227</td>
<td>1.5</td>
</tr>
<tr>
<td>2005</td>
<td>296</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Population: 178% increase

VMT: 500% increase
VMT Growth – 5 Year Increments

United States

1967-1972: 31%
1972-1977: 12%
1977-1982: 13%
1982-1987: 20%
1987-1992: 17%
1992-1997: 14%
1997-2002: 12%
2002-2007: 6%
2007-2012: -3%
Transit Ridership Growth – 5 Year Increments

United States

<table>
<thead>
<tr>
<th>Period</th>
<th>Ridership Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1967-1972</td>
<td>-20%</td>
</tr>
<tr>
<td>1972-1977</td>
<td>15%</td>
</tr>
<tr>
<td>1977-1982</td>
<td>7%</td>
</tr>
<tr>
<td>1982-1987</td>
<td>8%</td>
</tr>
<tr>
<td>1987-1992</td>
<td>-3%</td>
</tr>
<tr>
<td>1992-1997</td>
<td>-2%</td>
</tr>
<tr>
<td>1997-2002</td>
<td>15%</td>
</tr>
<tr>
<td>2002-2007</td>
<td>6%</td>
</tr>
<tr>
<td>2007-2012</td>
<td>3%</td>
</tr>
</tbody>
</table>
People 16 – 34 Years Old Are Driving Less

*annual mileage decline 2001 to 2009: - 23%*
What Drives VMT?

Demographics & Economics
- Labor Force Participation Rate
- Household Income
- Driver License Rate
- Vehicle Ownership
- Population

Traffic Enablers
- Miles of Roadways
- Energy Cost Subsidy
- Road Subsidy
- Sprawl
- Auto Dependency

the push
the pull
What’s the Trend?

Demographics & Economics
- Labor Force Participation Rate
- Household Income
- Driver License Rate
- Vehicle Ownership
- Population

Traffic Enablers
- Miles of Roadways
- Energy Cost Subsidy
- Road Subsidy
- Sprawl
- Auto Dependency
Per Capita VMT 2004 Pivot

The graph shows the Per Capita VMT (Vehicle Miles Traveled) from 2000 to 2012. The values fluctuate with a peak in 2004, followed by a decline in subsequent years, indicating a decline in VMT over the observed period.
Development patterns in US history

- Rural: 1800 - 1900
- Cities: 1900 - 2000
- Suburbs: 2000 -
- Mixed-use centers
VMT and GDP

Data Sources: VMT: US DOT, BTS, Table 1-32: US Vehicle Miles, FHWA Traffic Volume Trends August 2010. GDP: BEA National Income and Product Account Table, Table 1.1.6 Real GDP, Chained (2005) Dollars

Source: “Growing Wealthier – Smart Growth, Climate Change and Prosperity” January 2011 Center for Clean Air Policy
2. Federal Surface Transportation Funding
Context: Surface Transportation Budget

(2013 – Billions)

- Highways: $41.0
- Transit: $10.6
- Rail: $1.6
- Other: $3.0
<table>
<thead>
<tr>
<th>Year</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1956</td>
<td>Original federal aid to highways act (FAHA), first highway revenues act</td>
</tr>
<tr>
<td>1961</td>
<td>First federal appropriation for transit (housing act)</td>
</tr>
<tr>
<td>1964</td>
<td>First federal aid to urban mass transit (UMTA)</td>
</tr>
<tr>
<td>1973</td>
<td>FAHA – created MPOs</td>
</tr>
<tr>
<td>1982</td>
<td>Surface Transportation Authorization Act - 1¢ to transit</td>
</tr>
<tr>
<td>1991</td>
<td>ISTEA</td>
</tr>
<tr>
<td>1998</td>
<td>TEA-21</td>
</tr>
<tr>
<td>2003 - 2005</td>
<td>Three temporary extensions</td>
</tr>
<tr>
<td>2005</td>
<td>SAFETEA-LU</td>
</tr>
<tr>
<td>2009-2012</td>
<td>Ten temporary extensions</td>
</tr>
<tr>
<td>2012</td>
<td>MAP-21</td>
</tr>
</tbody>
</table>
declining federal gas tax revenue
Figure 1.

Status of the Highway Account of the Highway Trust Fund

(Billions of dollars)

Source: Congressional Budget Office.
PURCHASING POWER LOSS OF GAS TAX DUE TO INFLATION

- Historical CPI-U
- Estimated CPI-U Based on 18-year Average from 1993-2011

51% Purchasing Power Loss by 2022
Is the traditional federal surface transportation program still viable?
Current Administration: Two Ideas

1. Award grants administratively via ‘merit-based’ processes *
2. Focus federal funding on capital – ‘shovel-ready’ – projects

*ARRA, TIGER, TIGGER*
Project Phases Eligible for Federal Aid

Planning

Project Development

Conceptual Design

Final Design

Construction

O & M

Recapitalization

Traditional Formula Allocation Systems
Project Phases Eligible for Federal Aid

- Planning
- Project Development
- Conceptual Design
- Final Design
- Construction
- O & M
- Recapitalization

Merit-Based Discretionary Grants

ARRA and TIGER

Money flow:
- Planning
- Project Development
- Conceptual Design
- Final Design
- Construction
- O & M
- Recapitalization
Current Congress: Limited Agreement

1. Avoid tax increases
2. Rely more on borrowing
3. Rely more on private sector
4. No earmarks
Congressional Earmarks
Transportation Authorization Bill

1995 SAFETEA – LU 5,671

2012 MAP-21 0
Congressional Earmarks
Transportation Appropriations – Peak Year (2004)

Number of projects: 2,282
Amount: $3,859 billion
% of appropriation: 5.7%
policy outcomes from MAP-21
MAP-21 = “Moving Ahead for Progress in the 21st Century”
Who Decides (1)

Federal Agencies

State DOTs

MPOs and Local Governments

Highways

Transit
Who Decides (2)

Formula Allocation
State DOTs, MPOs, transit agencies

Earmarking
Congressional committee members

Administrative Grants
US DOT; Sustainable Communities Partnership
Roles in the Process

Elected Officials

Professional Staff

The Public
Who Pays

Taxes, Fees, General Funds (federal)

Direct User Charges (tolls, fares, etc.)
Worthy Projects

Predict and Provide (traditional)

Smart Growth, Sustainability, Livability

Credit Worthiness
Federal Role in Surface Transportation

- Interstate Highways and Major Roads
- “Local” – Streets, Transit, Walk, Bike
- Tax Collection and Revenue Distribution
Financial complexity
Shifting from Cash to Finance

- Grant Anticipation Revenue Vehicles (GARVEEs)
- Section 129 Loans
- State Infrastructure Banks (SIBs)
- Private Activity Bonds (PABs)
- Transportation Infrastructure Finance and Innovation (TIFIA)
TIFIA
(Transportation Infrastructure Finance & Innovation)

- $750 m in FY2013, $1.0 b in FY2014
- Types of assistance (repaid within 35 years):
  - secured loans & loan guarantees
  - lines of credit
- Master credit agreements (stream of projects)
- Cost participation up to 49%, but DOT will prioritize at 33%
- Payback sources: tolls, user fees, PPP payments, tax increments
- Eligible projects: highways, transit, rail – must be in STIP/TIP
- Projects > $50m generally, >$25m rural areas, >$15m for ITS projects, up to 10% for rural projects
- Selection criteria – first-come, first served/ “credit worthiness”?
Sources of Funds

cash

borrow

general taxation

user pays

SECTOR

Public

Private

Source/Program
Sources of Funds - Federal

- Federal cash
- Federal borrow

**SECTOR**
- Public
- Private

**SOURCES**
- General taxation
- User pays

**TRADITIONAL SURFACE TRANSPORTATION PROGRAM**
Sources of Funds - Federal

- Federal cash
- Borrow

SECTOR
- Public
- Private

GARVEE bonds
Sources of Funds - Federal

- Federal cash borrowed
- General taxation
- User pays
- TIFIA

SECTOR
- Public
- Private

TIFIA
Sources of Funds - Federal

- Federal cash
- Borrow
- General taxation
- User pays

Private activity bonds (PABs)
3. State Transportation Funding
Traditional state transportation funding sources

- Fuel taxes
- Sales taxes
- Vehicle registration fees
- Traditional bond proceeds
- Toll and fare revenues
- General funds
- Other taxes and fees
Non-traditional state transportation funding sources

- GARVEE bond proceeds
- Private activity bonds (PABs)
- Transportation Infrastructure Finance & Innovation Act (TIFIA)
- State infrastructure banks (SIBs)
- Section 129 Loans
- Vehicle miles traveled (VMT) fees
- Public private partnerships (PPPs)
VMT (mileage) Fees

- Fee or tax for miles driven
- GPS-based (onboard)
- Can differentiate location, time of travel, facility
- Oregon Road User Fee Pilot Program

SB 810: 1.5¢/mile (voluntary – 5,000 drivers – July 2015)
Sources of Funds – State Revenues

traditional gas taxes, vehicle fees, etc.

- General taxation
- User pays
Sources of Funds – State Revenues

- General taxation
- User pays

Cash

Bonding associated with tolls and fares
Sources of Funds – State Revenues

- General taxation
- User pays

SECTOR
- Public
- Private

State infrastructure banks
Sources of Funds – State Revenues

- General taxation
- User pays

- Cash
- Borrow

SECTOR

Public
Private

vmt fees
Sources of Funds – State Revenues

cash

borrow

SECTOR

Public

Private

general taxation

user pays

public-private partnerships
Recent State Initiatives

- **Arizona**
  - 2008 sales tax (failed to make ballot)
  - 2013 VMT fee (study committee)

General taxation

User pays
Recent State Initiatives

Maryland

2013
internet sales tax
index gas tax
new gas sales tax
wholesale gas tax
index transit fares
$800 M
(passed and signed by Governor)
Recent State Initiatives

California

2013 increase gas tax 3.5 cents (effective July 1, 2013)

general taxation

user pays
Recent State Initiatives

Virginia

2013
- internet sales tax
- general sales tax
- real estate fees
- wholesale gas tax
- vehicle fees
- $1.4 B
(Passed and signed by Governor)

general taxation

user pays
Recent State Initiatives

Indiana

2013 metro transit district income tax (passed, awaiting signature by Governor)

gas tax increase (in discussion)

general taxation

user pays
Recent State Initiatives

Massachusetts
2013

$1 cigarette tax
sales tax on computers
3¢ increase in gas tax

$500 M
(passed, vetoed,
overridden, effective in
August)
Recent State Initiatives

Oregon
2012-13 VMT fee pilot

- general taxation
- user pays
Recent State Initiatives

Washington 2013
- Electric car fee (effective Feb 2013)
- Tolls, gas tax, VMT fees (under study)

General taxation
- User pays
Recent State Initiatives

general taxation

user pays

Wyoming

2013

raise gas tax 10¢ (passed, signed by Governor, effective February 2013)
4. Implications
historic bi-partisan support for infrastructure may be gone
federal role may be reduced to banking and policy
states may shift toward debt financing, user fees & PPP deals
states may be more interested in state impact fees
it's about more than money...
5. Colorado Case Study – value capture for transit
Value Capture Funding for Transit

- Value Capture - Not a new idea.
- 1978 Study - “Windfalls For Wipeouts: Land Value Capture and Compensation” (Hagman and Misczynski):
  - Public infrastructure investments produce windfalls for private property.
  - These can could be captured by cities (or other public agencies) through taxes or fees tied to the increase in land value.
Familiar Examples of Value Capture

- **Special / Local Improvement Districts – (Special Assessments)**
  - Used for a variety of infrastructure & other improvements
  - Used for both Capital & O & M.

- **Tax Increment Financing (TIF) via URA.**
  - Often, however, a form of reverse Value Capture
  - Increasingly controversial as other taxing entities are deprived of the PTI.
Examples of Value Capture

Special Assessments for transit:

- Portland: Streetcar – a LID funded ~ 17% of the first phase; ~20% for subsequent phases.
- Seattle: South Lake Union Streetcar (2007): LID covered 50% of capital costs.
- Tampa: TECO streetcar line.
- Fairfax Co, VA: Metro Orange Line ext., Dulles Rail Transit Improvement District*
  * limited to 8 Tysons Corner properties, <6% of project costs
Evaluating Benefits of Transit for Value Capture

1998 study of residential prices in So. California: Buyers would have to add 15 to 30 minutes to a daily commute in order to reduce a home purchase price by $10 to $15 per sq. ft.

i.e. (“Drive to Qualify”)

(Dunphy, 1998)
## Transit’s Premium Effect on Residential Prices

<table>
<thead>
<tr>
<th>Variable/Location</th>
<th>Effect</th>
<th>ResType</th>
<th>Transit type</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Francisco Bay Area- BART System</td>
<td>+17% w/in 500 ft of stn.</td>
<td>SF</td>
<td>Rapid Transit</td>
</tr>
<tr>
<td>San Diego Trolley System</td>
<td>+2% w/in 200 ft of stn.</td>
<td>SF</td>
<td>Light Rail</td>
</tr>
<tr>
<td>Portland - MAX Light Rail System</td>
<td>+10.6% w/in 1,500 ft of stn.</td>
<td>SF</td>
<td>Light Rail</td>
</tr>
<tr>
<td>Sacramento Light Rail System</td>
<td>+ 6.2% w/in 900 ft of stn.</td>
<td>SF</td>
<td>Light Rail</td>
</tr>
<tr>
<td>Santa Clara Co. - VTA Light Rail</td>
<td>-10.8% w/in 900 ft of stn.</td>
<td>SF</td>
<td>Light Rail</td>
</tr>
<tr>
<td>Santa Clara Co. - VTA Light Rail</td>
<td>+45% w/in 1,320 ft of stn.</td>
<td>Rental</td>
<td>Light Rail</td>
</tr>
<tr>
<td>Chicago- METRA Commuter Rail System</td>
<td>+20% w/in 1,000 ft of stn.</td>
<td>SF</td>
<td>Commuter Rail</td>
</tr>
<tr>
<td>St. Louis MetroLink Light Rail System</td>
<td>+32% w/in 100 ft of stn.</td>
<td>SF</td>
<td>Light Rail</td>
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</table>

## Transit’s Premium Effect on Commercial R.E.

<table>
<thead>
<tr>
<th>Variable/Location</th>
<th>Effect</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washington, D.C. MetroRail / Downtown Stn.</td>
<td>+9% w/in 300 ft of stn</td>
<td>Rapid Transit</td>
</tr>
<tr>
<td>Washington, D.C. MetroRail / Silver Spring Stn.</td>
<td>+14% w/in 300 ft of stn</td>
<td>Rapid Transit</td>
</tr>
<tr>
<td>Washington, D.C. MetroRail / General</td>
<td>+12.3% to 19.6% w/in 300 ft of stn.</td>
<td>Rapid Transit</td>
</tr>
<tr>
<td>Atlanta MARTA System</td>
<td>+11% to 15.1% w/in 300 ft of stn.</td>
<td>Rapid Transit</td>
</tr>
<tr>
<td>San Francisco Bay Area (BART System)</td>
<td>No premium effect w/in 2,640 ft of stn</td>
<td>Rapid Transit</td>
</tr>
<tr>
<td>BART System</td>
<td>+1% w/in 500 ft of stn. (Retail)</td>
<td></td>
</tr>
<tr>
<td>Dallas DART Station Areas</td>
<td>+10% w/in 1,320 ft of stns</td>
<td>Light Rail</td>
</tr>
<tr>
<td>Dallas DART Station Areas</td>
<td>+30% w/in 1,320 ft of stn. (Retail)</td>
<td>Light Rail</td>
</tr>
<tr>
<td>Santa Clara Co. VTA Light Rail</td>
<td>+15% w/in 2,640 ft of stn</td>
<td>Light Rail</td>
</tr>
<tr>
<td>Santa Clara Co. VTA Light Rail - Downtown San Jose Stns.</td>
<td>+120% w/in 1,320 ft of stn</td>
<td>Light Rail</td>
</tr>
</tbody>
</table>

Challenges for Value Capture

Some property owners will object to paying, because:

- They may not be positioned to benefit in any reasonable timeframe.
- They may be ideologically opposed to new taxes, fees, transit, etc.
- They may feel the project will be built anyway…they can reap a windfall w/o paying (the “free ride” syndrome).
Challenges for Value Capture

Newly proposed transit stations in already-developed, denser areas provide more of a challenge for value capture.

- More complexity re. planning / land use-related issues and private/public goals.
- More parties involved.
- Aforementioned issues re. disincentives of existing property owners.
- May require mix of strategies: S.A.s, TIF/URA, Joint Development, etc.
Value Capture Strategies

...So, much of the focus of Value Capture strategies is on new development.
Benefits of Transit for Value Capture

Developers can capitalize on new Transit in several ways:

1. The transit premium: Improved marketability of new residential units, office space and other property; and higher revenues.
2. New infill development opportunities.
3. Probability of higher density allowances, entitlements
4. Greater financial feasibility of higher-density development
5. TODs often > public/private partnerships; some > direct subsidies, other beneficial neighborhood investments.
Value Capture Strategies

Because of these greater potential benefits:

- Developers are often more likely to be supportive of self-assessment (Value Capture) than existing property owners.
- The potential value that can be “captured” from new development is greater than the value measured by most of the studies that measure only the “transit premium”.
- The amount of that new value depends in part on a number of factors.
Success Factors for Transit Value Capture

- System Connectivity / Frequency
- Healthy Economy / Real Estate Market
- Supportive public policy
  - Incentives for TOD e.g. density bonuses, relaxed parking standards, etc.;
  - Good planning
- Traffic congestion
Connecting Northern Colorado by Rail

A Proposal for Developing Commuter Rail In Northern Colorado through Value Capture

Authors
Dave L. Ruble, Jr., P.E.
Roger L. Hoffmann

by
Northern Colorado Commuter Rail
a Colorado Non-Profit Corp.
Regional Context

Political/Economic/Social Factors

- Prolonged high pop. growth rates through in-migration.
- Rapid urbanization / sprawl – the legacy of the Wild (and Wide-Open) West.
- VMT growth exceeds Pop. Growth rates.
Population Trends (1970 to 2040)

- **Population in Millions**
  - 1970: 8%
  - 2000: 10%
  - 2040: 13%

- **Diagram Key**
  - State
  - Larimer/Weld
Pop. Growth and VMT

Larimer Co. VMT Growth ~ 2X Pop Growth

Comparative Incr: 1995-2007

- Pop. Growth: 21.96%
- VMT-Growth: 39%
Regional Context

Political/Economic/Social Factors, cont’d

- Large/Growing transportation deficits
  - > $4 Billion for 2-county region
  - High congestion, travel times incr.
Regional Context

Political/Economic/Social Factors, cont’d

- Perceived split between Urban / Rural values and interests. (e.g. County Secession movement)

- Parochialism makes regional planning / cooperation difficult – esp. for transit.
  - “Our (High)way or NO Way”
  - Conflicts over scarce resources (sales taxes)
Regional Context

Political/Economic/Social Factors, cont’d

- The region’s towns were initially established around the railroads.
- Both younger & older urbanites seem to value transit. Recent CDOT I-25 EIS confirmed public support for commuter rail.
Proposed Commuter Rail System w/ RTD linkages
Proposed NCCR DMU
Summary of NCCR System

- Length – 212.6 miles
- Number of Stations – 94
- Capital Cost – est. $3.0 billion
- Operating Cost – est. $205 - $276 million
- Initial Technology – Diesel Multiple Unit
- Number of Vehicles – 141 to 200
- Daily Ridership – 277,100 to 384,100
BENEFITS OF TRANSIT

Environmental Benefits

- Reduced traffic congestion
- Reduced fuel consumption
- Better air quality
- Reduced sprawl
- Conservation of open space

Fiscal Benefits

- Reduced road and parking facility costs
- Economic development - agglomeration efficiencies and increased productivity
- Increased property values
- Increased property tax revenues

Social Benefits

- Improved fitness and health as a result of increased walking and biking
- Reduced traffic accidents
- Improved transportation options, particularly for non-drivers
- Reduced consumer transportation costs
- Expanded labor market for employers, Improved access to job opportunities for workers
- Neighborhood revitalization
- Reductions in wasted commuting time / Stress.
Typical Rail Station

- Number of Dwelling Units – 1,000
  - Mix of Dwelling Unit Types
- Commercial Space – 350,000 S.F.
  - Grocery Stores
  - Restaurants
  - Medical Services
  - Specialty Retail
  - Personal Care
Proposed Revenue Sources

- Bond Program - $1.0 billion

- Value Capture funding:
  - CAT Fee - $3.15 billion
  - RETA Fee - $65.8 million/year

- Farebox - $79.0 to $122.7 million/year
Close Access to Transit (CAT) Fee

- One-Time Fee / All-at-Once.
  - At time a building permit is issued.

- Straw proposal (assumes no Fed, State or Local funding, no new taxes, etc.):
  - Even contribution from Comm’l & Residential
    - $16,000 per dwelling unit
    - $50 per sq. ft. of Commercial Space

- Offset by benefits:
  - Significant gain in value and market demand for properties near stations
Close Access to Transit (CAT) Fee

- Alternative: 50% from Value Capture with 50% Public match (Fed, State, Local)
  - CAT Fee: $8,000 per dwelling unit / $25 per sq. ft. of Commercial Space
  - RETA?

- Alternative 3: “All of the above” strategy...a mix of Value Capture, conventional public revenues, TIF, etc.... Different strategies for different locations based on existing land uses.
Real Estate Transfer Assessment

- Fee assessed at the time of sale
- Flat fee or percent of sale price
- Potential Revenue Estimate
  - $65.8 million per year
  - Based on 20% turnover rate
  - Flat rate of $3,500 per transaction
- Could be used for both Capital & O&M
6. Q & A, Discussion