What if VMT Per Capita Has Not peaked

2017 Colorado APA Conference
Presenters

Jay Renkens

Patrick Picard

Andrew Knudtsen
Outline

• Why is VMT important to planning?

• Historic & recent trends

• What influences VMT?

• TrendLab+ Tool – what do you think will happen?

• Discussion
Why do we care about VMT?

Jay Renkens, AICP
Why California Accidentally Encouraged Driving, and How That's About to Change

By Joshua Karlin-Resnick, Nelson\Nygaard
June 30, 2016
Keeping Pace with Crumbling Infrastructure

Business & Economy

California asks: Fix roads by taxing miles instead of gas?

Meghan McCarty Carino
April 03, 2017
Vehicle Miles Travelled far more equitable than gas tax

MACGREGOR ‘GOYA’ EDDY  Published 5:58 p.m. PT April 13, 2017

California’s State Legislature voted last week to provide $52.5 billion in transportation funding by increasing the fuel tax. The 10-year plan would boost gasoline excise taxes 12 cents per gallon — a 43%
Washington Launches Mock Mileage Tax Pilot

In the pilot project, 2,000 volunteers will pay a “mock tax on the number of miles they drive on Washington state roads, rather than on the amount of gas they use.”

BY NICHOLAS DESHAIS, THE SPOKESMAN-REVIEW / SEPTEMBER 11, 2017
Nick Antonucci column: Alternatives to broken gas tax are taking the stage
How has VMT trended historically?

Patrick Picard
Vehicle Miles Traveled

Travel Trends Past

Fact #347: November 22, 2004
The Relationship of VMT and GDP

The nation’s highway vehicle miles of travel (VMT) and the U.S. gross domestic product (GDP) reflect strikingly similar patterns, indicating the strong relationship between the nation’s economy and its travel. The graph shows how closely the two data series track each other over the past four decades (Reproduced from http://www1.eere.energy.gov/vehiclesandfuels/facts/2004/fcvt_fotw347.html).
Vehicle Miles Traveled
Decoupling VMT and GDP
I mentioned last week that car travel in America appears to have peaked back in 2004. Since then, "vehicle miles traveled" per person in the U.S. have been falling or flat-lining, prompting a fascinating debate over
Peak Car, 2005-2006

Annual vehicle miles traveled per capita

Source: Timothy J. Garceau, Carol Atkinson-Palombo, Norman Garrick, University of Connecticut

The Washington Post
Recent National Trends

U.S. VMT per Capita, 1991-2016

(https://www.enotrans.org/article/vmt-hits-nominal-high-approaches-time-per-capita-mark/)
Local Trends

![Graph showing transportation trends from 2000 to 2016 for Denver Region and Colorado.](source: FHWA, DRCOG)
Why the recent increase in VMT per capita?

What should we expect moving forward?
Factors influencing travel
Factors influencing VMT

demographic

economic

transportation

land use/design

technological
Test Question
How did you get to the APA Colorado Conference this year . . . . .

A. Drove Alone  18%
B. Carpoled       73%
C. Bus, Plane, other 10%
Demographic & Economic Factors

Andrew Knudtsen
The Millennial Factors

Changes among high school seniors

• 1976 to 1979
  – 87% had driver’s license
  – 85% had gone on a date
  – 72% earned money from working
  – 93% tried alcohol
  – 54% had sex

• 2010 to 2016
  – 72% had driver’s license
  – 56% had gone on a date
  – 55% earned money from working
  – 61% tried alcohol
  – 41% had sex

• Considerations:
  – Declines began before smart phone prevalence, but have accelerated recently
  – Author references anxiety about the future, magnitude of challenges, and desire to reduce risk
  – Washington Post, Tara Bahrampour, September 19, 2017

High school seniors are ‘growing up’ slower: Far fewer are driving, dating, drinking and working since 1976
DEMOGRAPHIC FACTORS

Civic Engagement

![Image of the book cover of "Bowling Alone" by Robert D. Putnam]

The graph shows the rate of participation in social institutions (% of households) from 1940 to 2000. The participation in various activities such as Church Attendance, PTA Attendance, League Bowling, and Homes with TV is illustrated. The graph indicates a rise in participation in these social institutions over time, particularly a significant increase from 1980 to 1990.
ECONOMIC FACTORS
Cost of Homeownership - Denver – 2010

- Income based approach

- Median household income of $72,500 in 2015

- Based on 2.5 person household at 100% of AMI per CHFA

- Translates to purchase price of $300,000

- MLS sales data for Denver neighborhoods

- 75% have median sales price below $300,000
ECONOMIC FACTORS
Cost of Homeownership - Denver – 2015

• By 2015, only 41% of neighborhoods fall below $300,000 median sales price.

• Rapid change, with annual increases:
  – 28% Globeville
  – 21% West Colfax
  – 20% Valverde
  – 20% Cole
  – $53,000 West Colfax
  – $40,000 Highlands
  – $36,000 Berkeley
  – $32,000 North Park Hill
ECONOMIC FACTORS
Cost of Homeownership – Denvermetro Region – 2017

- By 2017, higher prices throughout Denver
- Pressure on inner ring suburbs west of Denver
- Traditional pockets of wealth remain at the high end
ECONOMIC FACTORS
Change in Drive Alone Commute Mode Share (2000-2014)

• Drive alone commute share has increased in Denver’s core neighborhoods served by transit

• Home prices have also increased in these neighborhoods

• Many site increased prices as a result of transit access

• Paying for transit and not using it?

• Increased drive alone commute share increased VMTs
ECONOMIC FACTORS
Change in Transit Mode Share

• Transit mode share has decreased in these same neighborhoods

• Transit as a choice affected by perceived value of time by neighborhood residents
In the South I-25 corridor, 77% of Class A office (and 66% of all office) has been constructed within half mile of a transit station.
LAND USE FACTORS
Impact of Transit on Apartment Production

- Apartment pipeline contains 24,000 units in Denver
- Of this total, 72% to 73% are along transit lines

<table>
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<tr>
<th>Description</th>
<th>Under Construction</th>
<th>Proposed</th>
<th>Total</th>
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<tr>
<td><strong>Denver Metro</strong></td>
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<td>JRES</td>
<td>13,067</td>
<td>11,230</td>
<td>24,297</td>
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<td>CoStar</td>
<td>12,627</td>
<td>11,494</td>
<td>24,121</td>
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<td><strong>Submarkets</strong></td>
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<td>Downtown</td>
<td>6,598</td>
<td>5,221</td>
<td>11,819</td>
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<td>Light Rail Corridor</td>
<td>2,031</td>
<td>1,778</td>
<td>3,809</td>
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<td>US-36 Corridor</td>
<td>1,174</td>
<td>805</td>
<td>1,979</td>
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<td><strong>Subtotal</strong></td>
<td>9,803</td>
<td>7,804</td>
<td>17,607</td>
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<tr>
<td>% of JRES</td>
<td>75.0%</td>
<td>69.5%</td>
<td>72.5%</td>
</tr>
<tr>
<td>% of CoStar</td>
<td>77.6%</td>
<td>67.9%</td>
<td>73.0%</td>
</tr>
</tbody>
</table>

Source: Economic & Planning Systems
Labor Force Participation
Between now and 2040 do you think the percent of the population participating in the labor force in Colorado will.

1. Go up 38%
2. Stay the same 10%
3. Go down 52%
Driving Age Population
Between now and 2040 do you think the percent of the population in Colorado 16 years and older with a drivers license will...

1. Go up
   14%
2. Stay the same
   16%
3. Go down
   71%
Vehicle Ownership
Between now and 2040 do you think the average number of vehicles per household in Colorado will . . .

1. Go up 6%
2. Stay the same 18%
3. Go down 76%
Licensing Regulations

Between now and 2040 do you think licensing regulations restricting teen driving in Colorado will... 

1. Go up 40%
2. Stay the same 58%
3. Go down 2%
GDP, Real Income Growth
Between now and 2040 do you think inflation adjusted median income in Colorado will . . .

1. Go up 47%
2. Stay the same 17%
3. Go down 36%
Housing and Land Use Factors Impacting VMT

• Neo-Suburbanization
• Lifestyle Flip-Flopping
• Consolidation Trends
• Globalization
• Walkability
• Household Formation
Priced Out Of The City? Consider Suburban Living

Affordable Home Prices Still Exist In The Suburbs

Suburban Home Affordability Comes With Other Benefits
You’re ready to buy a home, finally, and you started house hunting in the city. But you quickly noticed home affordability plummeting. That’s true for both Millennials and Gen Xers wanting to stop rental but remain urban dwellers.

You’re not only out-priced; you’re outflanked by investors and Boomers buying up urban housing inventory. Both are bidding up real estate faster than you can say “let’s make an offer.”

For the city-loving younger set, that’s meant making different choices, like moving to suburbs. For the first time in a decade, suburban growth accelerated last year and is outpacing city growth.

Click to see today’s rates (Sep 27th, 2017)

There Are Benefits to Suburban Living
Lower home prices are only one of the few benefits of living in suburbia. If you choose the right suburb, you’ll find more than home affordability. There are trade-offs, of course, like...
Older millennials are leaving the city for a new kind of suburb

Melody Hahn
Reporter
Yahoo Finance August 7, 2017

Why live in a metropolis when you can find urban perks in the suburbs?

Older millennials are realizing they don't have a good answer to that question anymore. The result: a migration out of the city.

Almost half of millennial homeowners live in the suburbs, and the majority stay in the same metropolitan area when they buy a home, according to research from Zillow.

Annie Radecki, senior manager at John Burns Real Estate Consulting, says builders are now focused on creating "suburban" environments, or urban-like developments in the suburbs.

While millennials might have once shuddered at the thought of trekking out to the 'burbs, this very generation (who make up 42% of all homebuyers), is trading in the hustle and bustle of cities for less chaotic communities. And many of these "suburban" environments provide millennials with the kinds of amenities they got in the city, including boutique fitness options, high-quality grocery stores and popular restaurants.
Baby Boomers resist selling homes, helping to keep prices high and inventory low: Zillow's Gudell

Where Are The Boomers Headed? Not Back To The City.

Joel Kotkin, CONTRIBUTOR

Perhaps no urban legend has played as long and loudly as the notion that “empty nesters” are abandoning their dull lives in the suburbs for the excitement of inner city living. This meme has been most recently celebrated in the Washington Post and the Wall Street Journal.

Both stories, citing research by the real estate brokerage Redfin, maintained that over the last decade a net 1 million boomers (born between 1945 and 1964) have moved into the city core from the surrounding area. “Aging boomers,” the Post gushed, now “opt for the city life.” It’s enough to warm the cockles of a downtown real-estate speculator’s heart, and perhaps nudge some subsidies from city officials anxious to secure their downtown dreams.
Distribution and Access

• Smaller footprints for institutions and services means:
  • Greater number to serve the same population
  • Greater distribution due to greater number
  • Greater access assuming relatively rational distribution

• Consolidation trends
  • Libraries
  • Schools
  • Grocery stores
  • Post offices
Distribution and Access
Distribution and Access
Globalization

The Economist explains

What is an aerotropolis?
Walkability
Walkability
Households
Suburban Migration
Between now and 2040 do you think the preference for suburban living among Coloradans will . . .

1. Go up 33%
2. Stay the same 38%
3. Go down 29%
Household Formation

Between now and 2040 do you think traditional household formation (younger generations get jobs, buy homes, start families,) in Colorado will . . .

1. Go up 19%
2. Stay the same 23%
3. Go down 58%
Goods & Services Delivery

Between now and 2040 do you think internet shopping & same day delivery in Colorado will . . .

1. Go up 96%
2. Stay the same
3. Go down
Social Networking
Between now and 2040 do you think the degree to which virtual forums substitute face-to-face social encounters and entertainment among Coloradans will . . .

1. Go up 49%
2. Stay the same 32%
3. Go down 19%
Auto operating cost

Source: U.S. Energy Department
Congestion & time use
Multimodal networks
Telecommuting

Increase in Workers at Home in the 100 Largest Metropolitan Areas, 2000 to 2014
Transportation network companies (TNCs)

Uber’s Gross Bookings

- All of 2014
- 1st Half of 2015

(in billions)

$0 $1 $2 $3 $4
Next generation vehicles
Auto Operating Cost
Between now and 2040 do you think the average auto operating cost per mile in Colorado will . . .

1. Go up 63%
2. Stay the same 12%
3. Go down 25%
Congestion & Time Use
Between now and 2040 do you think traffic congestion in Colorado will . . .

1. Go up 90%
2. Stay the same 6%
3. Go down 4%
First/Last Mile Strategies
Between now and 2040 do you think non-driving travel options in Colorado will . . .

1. Go up 92%
2. Stay the same 6%
3. Go down 2%
Telecommuting
Between now and 2040 do you think the degree to which Coloradans work remotely will . . .

1. Go up
   - 75%
2. Stay the same
   - 23%
3. Go down
   - 2%
Shared Mobility Services
Between now and 2040 do you think the degree to which shared mobility services (bike and car sharing, TNCs, microtransit) are available in Colorado will . . .

1. Go up  94%
2. Stay the same  6%
3. Go down
Automated Vehicles
Between now and 2040 do you think the percentage of autonomous vehicles in Colorado will . . .

1. Go up  90%
2. Stay the same  6%
3. Go down  4%
Results & Discussion
Questions

• What factors are most influential in driving the recent uptick in VMT per capita?

• What factors can we influence? What are some examples?