

# FTA

FEDERAL TRANSIT ADMINISTRATION

## The Intersection of Transportation and Economic Resilience

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Region 5 Grantee Workshop on Economic Resilience  
October 2, 2014



U.S. Department of Transportation  
Federal Transit Administration

# Federal Transit Administration

## Overview

- One of several USDOT agencies
- Primary federal funding source for public transportation – 49 USC Ch. 53
- HQ/ten regional offices ~500 employees
- ~\$11-15B in grants obligated annually ( ~\$1.2-1.7B via 400+ grants in R5)

## Region 5-Chicago

- Planning and Program Development
  - FHWA/FTA oversee state/metropolitan transportation planning process
  - Planning Partners: State DOTs, MPOs, and transit operators
  - Transit Grants: Operating assistance, capital improvements, planning
- Program Management Oversight – Monitor grantees use of funds

# Economic Development

## Measuring Tools

- Economic Impact Analysis – Effect of policy or project in terms of direct/indirect impact on employment, income, GDP.
- Cost-effectiveness Analysis – Compares alternatives and the direct costs of each to achieve a particular outcome.
- Positives/Negatives
  - Rational methodologies to compare value of projects/alternatives
  - Does not determine if overall society is better-off
- Alternative – Wider Economic Benefits
  - FHWA Strategic Highway Research Program (SHRP2)
  - National Cooperative Highway Research Program (NCHRP)

\* FHWA Web Site [http://www.fhwa.dot.gov/planning/economic\\_development/](http://www.fhwa.dot.gov/planning/economic_development/)

# Economic Development

## Measuring Tools – Benefit-Cost Analysis

- Monetized comparison over the lifetime of a project from planning through construction and operation for an extended period of ~20-30 years
- Costs: design, engineering, NEPA, construction
- Benefits/Disbenefits: M&O, ecological, VMT, noise, emissions, travel time, accidents, residual value
- Discount Rate: Enables cash flow comparison over time
- Benefit/Cost Ratio: + generally indicates society better off
- Net Present Value (NPV) : reflects monetized +/- value based on B/C ratio
- U.S. DOT TIGER: <http://www.dot.gov/tiger/guidance>

# Economic Development

## Measuring Tools – HUD/DOT Location Affordability Portal

- Combined costs of housing and transportation
- Transportation Cost Calculator
  - Users enter basic housing and travel data for particular areas
  - Use for cost comparisons
- Location Affordability Index
  - Download data by block groups, tracts, places, counties, CBSA for customized analysis.
  - Census ACS, TIGER, LEHD, LODS files; BLS-CES; NTD
  - Example scenarios on how to use the portal and data.
  - Other resources on housing/transportation interrelationship
- U.S. DOT TIGER: <http://www.locationaffordability.info/>

# Economic Impact of Public Transportation Investment

Total Potential Long-term Impact per \$1B Invested in Transit over 20 Years\*

Category of Economic Impact	Value of Economic Impact	Wage Equivalent	Job Equivalent	Corresponding Tax Revenue
Investment Spending Effect	\$1.7 billion	\$1.3 billion	21,800	\$432 million
Long Term Cost Savings Effect	\$2.0 billion	\$1.5 billion	28,931	\$310 million
<b>Total Economic Impact</b>	<b>\$3.7 billion</b>	<b>\$2.8 billion</b>	<b>50,731</b>	<b>\$742 million</b>

\* Difference in impact between the “Base Case” scenario and higher transit investment scenario, expressed as a ratio per \$1B of added annual investment in public transportation.

\* Economic Development Research Group for American Public Transportation Association, May 2014

<http://www.apta.com/resources/reportsandpublications/Documents/Economic-Impact-Public-Transportation-Investment-APTA.pdf>

# Economic Impact of Public Transportation Investment

## Productivity Impacts

- Travel/vehicle ownership cost savings - consumer spending shifts (HH reduction of 1 car saves up to \$10,000 annually)
- Reduced traffic congestion – further travel cost savings
- Business operating cost savings – worker reliability from reduced congestion
- Business productivity gains – access to broader labor markets
- Additional regional business growth – improved competitiveness

\* Economic Development Research Group for American Public Transportation Association, May 2014

<http://www.apta.com/resources/reportsandpublications/Documents/Economic-Impact-Public-Transportation-Investment-APTA.pdf>

# Conflicting Research on Urban Form

## Auto-Centric Development

- *Driving the Economy*
  - Historic GDP and energy use growth are nearly identical across 177 countries
  - Bi-directional relationship between growth of VMT and GDP but primary from VMT to GDP

\* R. Pozdena, Cascade Policy Institute, Portland, 2009.

- *Sprawl: A Compact History*
  - Not new or just in the U.S.
  - Correlated with prosperity and improved quality of life
  - Discounts value of cities in Improving civic engagement
  - Reduces housing, congestion costs
  - Plenty of land, why restrict development?

\* R. Bruegemann, University of Chicago Press, 2005



# Conflicting Research on Urban Form

## Compact Development

- *The Relationship Between VMT and Economic Activity\**
  - Studied VMT-GDP relationship in 98 urban areas
  - In well-developed areas, reasonable to assume that VMT-reduction policies would not lead to significant drops in economic activity
  - In small urban/rural areas VMT-reduction might lead to less GDP

\* B. Starr McMullen, Oregon State University, Portland, OR, 2011

- *Does Accessibility Require Density or Speed?\**
  - Studied 50 largest metros-relation of density & accessibility by car
  - Time + \$ cost of travel: Mobility-per mile:Accessibility-per destination
  - Used MPO trip flow tables to develop accessibility score
  - Density exerts a + accessibility effect via proximity more than 10X the negative effects of slower speeds/congestion related to density

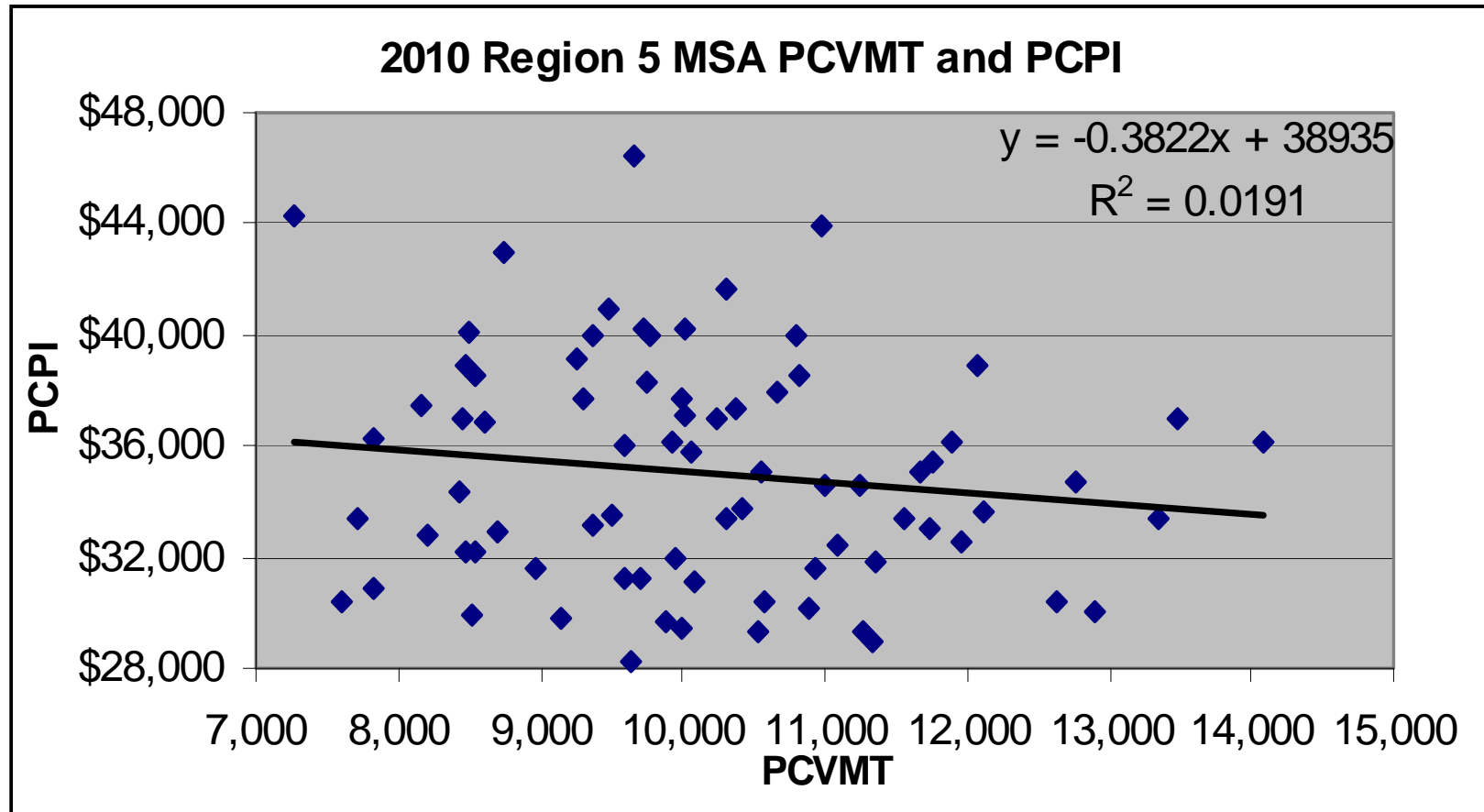
\* J. Levine, J. Grengs, Q. Shen, Journal of the American Planning Association, Vol. 78, No. 2, Spring 2012

# Economic Benefits of Compact Urban Form

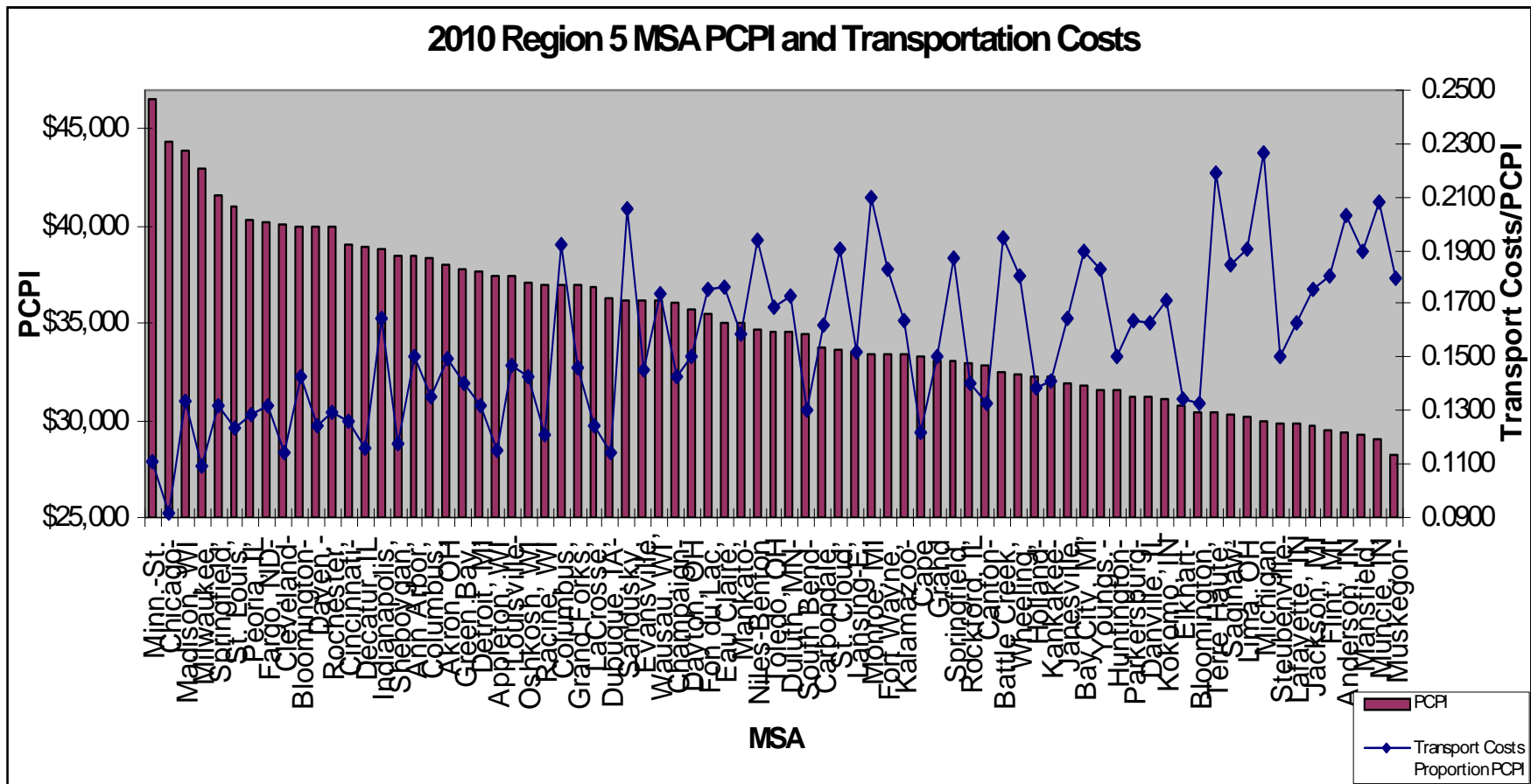
## Reduced Transport Costs

- Study of 77 MSAs, including 88 UZAs in states of IL, IN, MI, MN, OH, WI (2000 and 2010 data).
- 12,000 total Census tracts
  - Calculated population density for each
  - Weighted each tract by proportion of pop. in individual MSA
- Purpose: Any WPD correlation with quality of life metrics?
- General Findings - Weighted population densities have statistically significant positive relationships and stronger correlation than standard densities with higher:
  - Education
  - High-tech Jobs
  - Transit Use
  - PCGDP
  - PCPI

# Economic Benefits of Compact Urban Form



# Economic Benefits of Compact Urban Form



# Economic Benefits of Compact Urban Form

## Reduced Transport Costs

Weighted Population Density (clustering): 1% increase =

- +1.6% and +1.4% PCPI/PCVMT Ratio
- -1.4% and -1.3% transport cost as a proportion of PCPI (includes 100% personal vehicle and transit operating costs).
- Changes 2000 to 2010 insignificant.
- Most areas continued reductions in clustering.
- Difficulty in changing past development

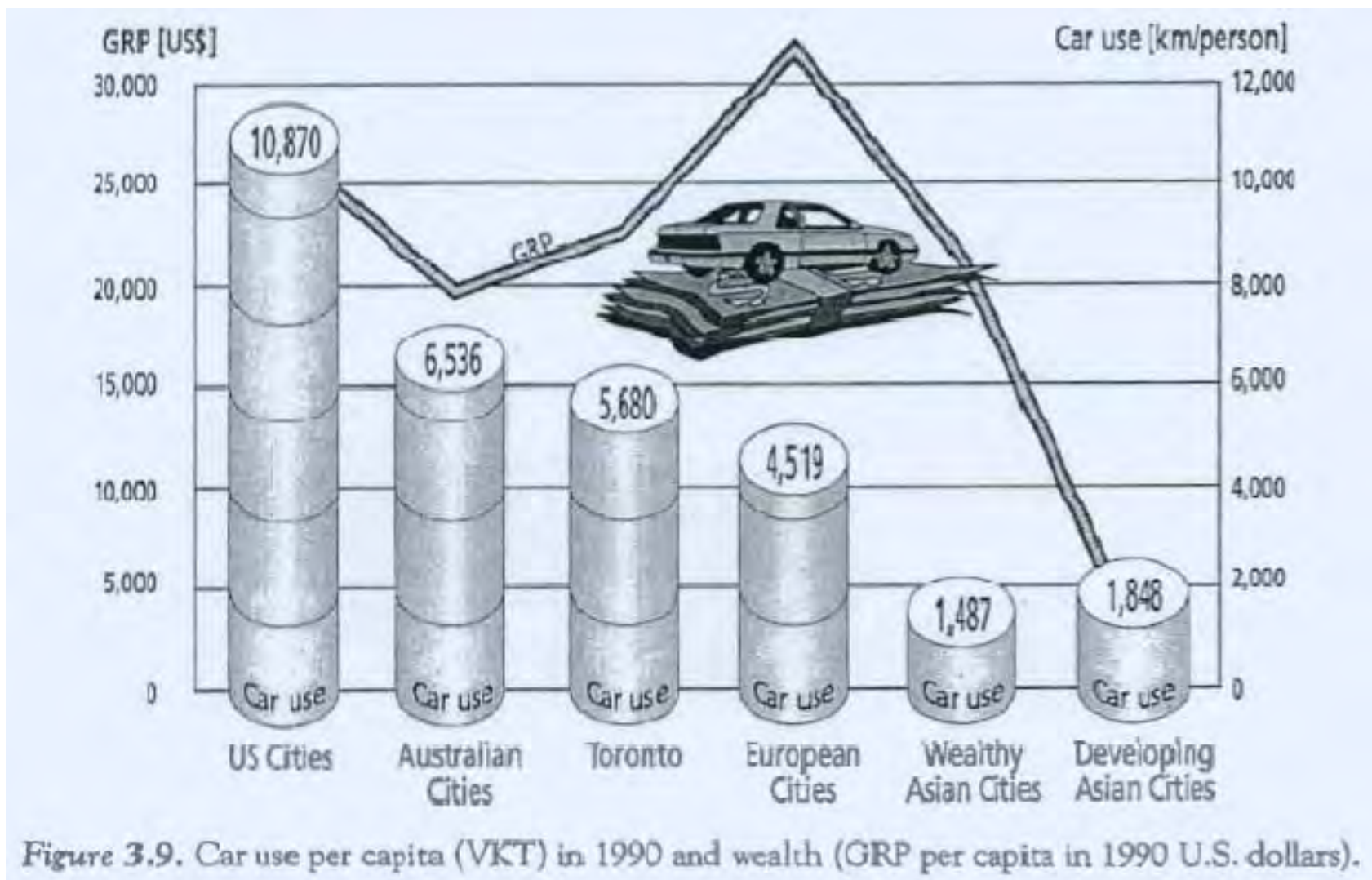
\* R. Arkell, Weighted Population Density as a Transportation Performance Metric, September 2014.

## Back Of the Envelope Economic Efficiency Assessment

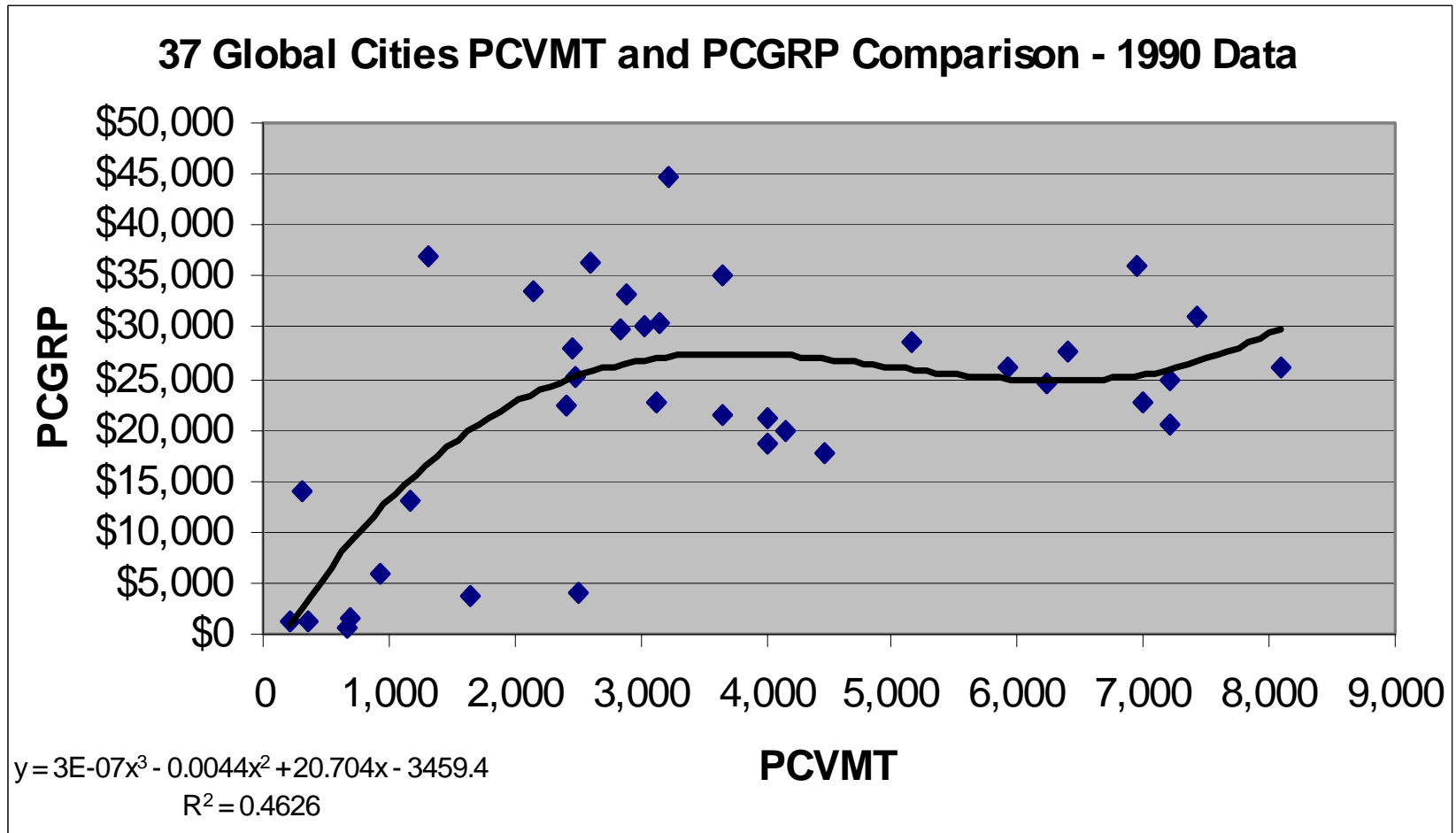
2010 Average U.S. Household Statistics		
Household Size	2.6	2.6
Vehicles per HH	2	1
Miles per Car	12,500	15,000
Per Capita VMT	9,600	5,769
AAA Cost Per Mile \$0.6	\$0.60	\$0.60
Vehicle Costs	\$15,000	\$9,000
Per Capita Vehicle Costs	\$5,769	\$3,462
<b>HH Car Expense Savings</b>		<b>\$6,000</b>
2010 Region 5 UZA Transit Statistics		
Total Operating/Capital Costs	\$6,200,000,000	
Population	38,000,000	
Per Capita Annual Transit Cost	\$163	
1 CTA Monthly Pass	\$100	\$1,200
<b>HH Transport Cost Savings</b>		<b>\$4,800</b>

Key  
Performance  
Metrics

## GRP and Per Capita Kilometers in Global Cities



# GRP and Per Capita Kilometers in Global Cities





# Economic Efficiency Challenges

- Job and GDP increases confused with improving economic efficiency & quality of life – “If the goal is job creation, don’t give them shovels – use spoons.”
- Locally-based growth and development decision-making not taking into account regional impacts.
- Research shows people are attracted to more compact human-scale development but zoning often disallows it.
- Misperception that more “rooftops” and geographic expansion will solve economic woes. Transportation affordability not usually a performance measure.
- Misperception that declining densities are due to market-driven forces. Development patterns are due to the above elements and:
  - Transportation funded significantly by general revenues, i.e. subsidies or non-user fees – Roads ~50% (nation); Transit ~80% (Region 5).
  - Users not getting pricing signals to move closer to employment/amenities.
  - Lack of political will to fully charge users directly through higher fuel taxes, congestion pricing, or VMT charges.

## Conclusions

### Higher population densities, particularly higher polycentricity

- Lower combined housing/transportation costs as proportion of income.
- Not necessarily conducive to higher proportion of income for housing.
- The marginal benefits of increasing per capita VMT are not worth the costs much beyond about 4,000-6,000.
- Land use matters significantly in improving economic efficiency of the built environment and reducing unnecessary transportation.
- Access to at least one vehicle per household provides strong positive economic benefits, particularly for low-income families.
- HHs with two vehicles or more add little value to the economy.
- All proposed major local/regional development should be analyzed through comprehensive BCA and coordinated with MPOs. Generally, projects should be implemented when the following are evident:
  - Substantively positive B/C ratios, highest for chosen alternative
  - Increases in weighted population/employment densities
  - Reductions in PCVMT accompanied by PC increases in other modes

## Solvency of Highway Trust Fund (HTF)

- Congress voted to transfer \$10.8B into Highway Trust Fund (August 2014).
- This same bill also extends MAP-21 programs and policies through May 31, 2015.
- U.S. DOT remains committed to long-term funding for Highway Trust Fund and Mass Transit Account.

## GROW AMERICA Act

- A four-year, \$302 billion surface transportation authorization to replace MAP-21, which expires 9/30/14.
- Invests \$72 billion in public transportation over 4 years—nearly a 70% increase over MAP-21.
- Builds on MAP-21 and strengthens commitment to safety, SGR, efficiency, performance, and underserved pop.
  - \$87B transit SGR backlog
  - 65% of roads and 1 in 4 bridges needs significant repair
- Supplement Hwy Trust Fund/Transit Acct w/\$150B via tax reform.
- Addresses the challenges of a nation expected to grow by 100 million residents by 2050.

# Highlights of Program Changes

## New

- Fixing and Accelerating Surface Transportation Program (5602)
- Rapid Growth Area Transit Program (5341)
- Local Hiring Provisions

## Modified

- Bus and Bus Facilities (5339)
- State of Good Repair (5337)
- Human Resources and Training (Workforce Development) (5322)
- Metropolitan Transportation Planning (5303)
- Enhanced Mobility of Seniors and Individuals with Disabilities (5310)
- Formula Grants for Rural Areas (5311)
- Public Transportation Safety (5329)

## Repealed or Consolidated

- No MAP-21 programs are repealed or consolidated in the proposed GROW AMERICA Act

# Program Funding Levels Over Time

	FY 2014 Enacted	FY 2015 President's Budget	GROW AMERICA TOTAL (FY 15-18)
<b>TRANSIT FORMULA GRANTS (TF)</b>	<b>\$8,595,000,000</b>	<b>\$13,914,400,000</b>	<b>\$57,036,400,000</b>
<i>Transit Oriented Development</i>	10,000,000	10,234,449	42,500,791
<i>Planning Programs</i>	128,800,000	131,819,706	547,410,195
<i>Urbanized Area Formula Grants</i>	4,458,650,000	4,563,182,694	18,949,620,707
<i>Enhanced Mobility of Seniors and Individuals with Disabilities</i>	258,300,000	264,355,823	1,097,800,755
<i>Formula Grants for Rural Areas</i>	607,800,000	622,049,823	2,583,198,107
<i>Bus Testing Facility</i>	3,000,000	3,070,335	12,750,237
<i>National Transit Institute /Public Transit Institute</i>	5,000,000	5,117,225	21,250,396
<i>National Transit Database</i>	3,850,000	3,940,263	16,362,805
<i>State of Good Repair Grants</i>	2,165,900,000	5,719,000,000	23,216,000,000
<i>Bus and Bus Facilities Grants</i>	427,800,000	1,939,000,000	7,822,005,339
<i>Growing States and High Density States Formula</i>	525,900,000	538,229,684	2,235,116,626
<i>Administrative Expenses 1/</i>	105,933,000	114,400,000	492,400,000
<b>CAPITAL INVESTMENT GRANTS (GF/TF) 2/</b>	<b>1,942,938,000</b>	<b>2,500,000,000</b>	<b>10,775,000,000</b>
<b>TRANSIT RESEARCH AND TRAINING (GF/TF)</b>	<b>48,000,000</b>	<b>60,000,000</b>	<b>251,000,000</b>
<i>Workforce Development</i>	2,000,000	20,000,000	80,000,000
<b>EMERGENCY RELIEF PROGRAM 3/ (TF)</b>	<b>0</b>	<b>25,000,000</b>	<b>25,000,000</b>
<b>FAST (TF)</b>	<b>NA</b>	<b>500,000,000</b>	<b>2,000,000,000</b>
<b>RAPID GROWTH AREA TRANSIT PROGRAM (TF)</b>	<b>NA</b>	<b>500,000,000</b>	<b>2,175,000,000</b>
<b>TOTAL</b>	<b>\$10,841,871,000</b>	<b>\$17,649,400,000</b>	<b>\$72,337,400,000</b>

1/Administrative Expenses under Transit Formula Grants account in FY 2015. Was previously funded from General Fund.

2/ FY 2014 enacted level assumes using at least \$190 million of prior year balances to fully fund President's request of \$2.132 billion.

3/Represents balance of funds available after sequestration and transfers.

# FTA Discretionary Programs

NOFA	Program	Amt.	Ending	Eligible Projects
6-4-14	Bus/Bus Facilities- Ladders of Opportunity*	\$100M	8-4-14	Buses, stations, maintenance facilities, BRT, & other capital
9-4-14	TOD Planning Pilot Program	\$20M	11-3-14	Projects accepted into FTA's CIG program, PD phase OR initiated NEPA with CIG PD application forthcoming. Requires land use authority prtnr.
9-5-14	Innovative Public Transportation Workforce Dev Ladders of Opportunity	\$7.9M	11-4-14	Focus on training for disadvantaged persons to enter transit workforce. Partner w/school, labor org, non-prof.

\*24 Projects Selected in 19 states

- City of Detroit – \$25.9M for up to 50 hybrid buses
- Met Council/Metro Transit - \$3.3M bus passenger/stop facilities
- Springfield IL MTD - \$0.76M buses to expand service
- Bloom/Normal Transit - \$2M to replace/expand buses/service

# Transportation Investments Generating Economic Recovery (TIGER)

- USDOT annual discretionary grant program since 2009
- \$473.847M, FY2013; \$600M FY2014
- Targets innovative highway/transit capital infrastructure projects
- \$35M of \$600M in FY2014 for planning projects
- Eligible Recipients: State/Local Governments
  - Pre-registration required; [www.grants.gov](http://www.grants.gov)
  - **September 12, 2014 Selections Announced**
- Criteria
  - State of Good Repair – Improve condition/existing facilities
  - Economic Competitiveness – Improve efficiency/cost effectiveness/employment
  - Livability – Facilitates transport modal options (especially disadvantaged persons)
  - Environmental Sustainability – energy efficiency/reduction; avoid adverse impacts
  - Safety
  - Project Readiness - Technical/financial feasibility, NEPA/Design Completion
  - Innovation – Pricing, Technology, Congestion Management, etc.
  - Partnerships – Public, Private, Non-profits



# FTA

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U.S. Department of Transportation  
Federal Transit Administration

# FTA Rulemakings

Date	Subject	Date	Details
10/3/13 ANPRM	National Safety Program and Asset Management	1-2-14 end comment	Safety: National and transit agency plans SGR: Define metrics/processes
6-2-14 Policy Guidance	Guidance on MPO Representation by Transit	10-1-14 in place	Must include transit rep. on MPO Policy Board. Exempt if MPO est. per state leg. Prior to 12-18-91.
6-2-14 NPRM	Statewide/Nonmetro. & Metropolitan Planning	10-2-14 end comment	Updated planning rules per MAP-21. Integrates performance-based planning. Oversight by FHWA/FTA)

## Section 5303 / 5304 Planning

- Funds apportioned by state; \$126M/FY2013; \$129M/FY2014 (national)
- Eligible Recipients
  - States / Metropolitan Planning Organizations (MPO)
  - Sub-recipients: Local Governments
- Eligible Activities
  - Development of Required State/MPO Planning Documents: Transportation Improvement Program (TIP), Long Range Transportation Plan (LRTP), Unified Planning Work Program (UPWP)
  - Corridor Studies, Transportation Plans, Origin/Destination Surveys
  - Comprehensive Plans (land use plans) with transportation components
  - Project Environmental Reviews

## Section 5307 Urbanized Area Formula Program

- Funds apportioned by UZA; \$4.8B in each FY2013/14 (national)
- Core public transportation investment program in urban areas
- Designated Recipients in urban areas
- Capital (80% federal)
  - Transit Stations, maintenance facilities, vehicles, paratransit service
  - Equipment, preventive maintenance, telecommunications, security
- Operating Assistance (50% federal)
  - 76-100 buses in peak (large UZAs): 50% of funds max.
  - <75 buses in peak: (large UZAs): 75% of funds max.
  - Small UZAs unlimited
- Transit Enhancements (80% federal)
  - Bus shelters, benches, signage, landscaping
  - Sidewalks within 1/2 mile of transit stops; Bike paths within 3 miles of transit stops
- Job Access/Reverse Commute
  - Targets low income/welfare recipients; Public/non-profits via designated recipient
  - Operating assistance: Shuttles, late night/weekend service, guaranteed ride home, demand response. Mobility management, equipment.
  - Coordinated Planning Process
- Planning – Corridor studies; asset management/maint. plans; surveys; NEPA

## Section 5311

- Rural Areas Formula Program; Apportioned by state; \$618M FY2014 (nat.)
  - Core public transportation investment program in non-urban areas
  - 83.15% based on rural land area and population
  - 16.85% based on rural land area, vehicle revenue miles, number of low income persons
  - Rural Transit Assistance Program - Additional \$10.6M
  - Designated Recipients – States
  - Sub-allocate per PMP to public/non-profits and intercity bus
- Indian Reservations
  - Formula - \$25M
    - Vehicle Revenue Miles
    - Number of low-income persons
  - Discretionary - \$5M
- Appalachian Development - \$20M Formula
- Capital, Operating and Planning

## Section 5339 Bus and Bus Facilities

- Funds apportioned by UZA; \$421M/FY2013; \$428M/FY2014 (national)
- Replaces discretionary (competitive) program with formula funds
- Public transportation capital projects (not preventive maintenance)
- 80% federal share
- Designated Recipients in large UZAs; States for small UZAs
- Operators agree on funding split
- Capital
  - Transit Stations/maintenance facilities (new & rehabilitated), vehicles
  - Equipment, telecommunications, security



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## 5309 New Starts/Core Capacity Expansion

- New/expanded fixed Guideway Capital Investments
  - Rail
  - Bus Rapid Transit (BRT) – Separated ROW
- 10%+ Core capacity expansion projects now eligible
- Competitive Program \$1.8B/FY2013; \$2.1B/FY2014
- State and local government agencies eligible
- Process
  - Project Development/NEPA two year max.; AA eliminated
  - Establish local funding source/amount (~20-50% or more of project cost)
  - Project added to metropolitan transportation plan
  - FTA approves into engineering
- Rating Criteria
  - Mobility improvements – overall and transit-dependent ridership
  - Environmental benefits – air quality improvements from reduced VMT
  - Existing/future transit-supportive land uses
  - Annualized capital/operating cost per trip
  - Economic development – Transit supportive plans/policies/demonstrated success

## Section 5309 New Starts

- **Small Starts**
  - Must have net capital cost of < \$250M
  - Seek a federal share of < \$75M
- **Very Small Starts**
  - Frequent Service: 10 min peak / 15 min off-peak
  - Service: Offered at least 14 hours/day
  - Existing corridor ridership: Exceeding 3,000/day
  - Total project cost: <\$50M
  - Cost/Per Mile: <\$3M (excluding vehicles)



## Section 5310 Enhanced Mobility of Seniors & Individuals with Disabilities

- The Americans with Disabilities Act (ADA) - Assures equality of opportunity, full participation, independent living and economic self sufficiency of individuals with disabilities.
- Funding targets special needs of transit dependent populations beyond traditional public transportation and ADA complementary paratransit.
- \$257M each in FY2013 and FY2014
- Designated recipients: Large UZA operators/states; Sub.: Non-profits
- Min. 55% Capital; 45% Operating Assist.
- Coordinated Human Services

### Transportation Plan

- Call for projects
- Vehicles, equipment, facilities, mobility management, operating



Forward Motion

## Section 5337 State of Good Repair

- Funds apportioned by UZA; ~\$2.1B/FY2013; \$2.2B FY2014
- Maintain fixed guideway infrastructure in urban areas
- Recipients – Operators of fixed guideway rail and BRT
- Replaced Fixed Guideway Modernization Program
- 80% Federal Share
- Transit Asset Management Planning
- Capital
  - Transit Stations, maintenance facilities, vehicles
  - Track, roadbed, bridges, catenary wire systems

# Other FTA Grant Programs

- Section 5312 – Research, Development, Demonstration, & Deployment Projects
- Section 5314 – Technical Assistance and Standards Development
- Section 5324 – Emergency Relief Program
- Section 5329 – Safety
- Section 5331 – Alcohol and Controlled Substances Testing

## Joint Development

- Use of FTA funds for a type of transit-oriented development (TOD) with non-transit components that have a physical or functional relation to public transportation.
- Public/Private Partnerships
- Provide for Revenue to Enhance Transit
- Activities
  - Planning/Environmental Review
  - Land Acquisition
  - Construction
- Potential Projects
  - Transit Mall
  - Renovations of Historic Transit Stations
  - Streetscaping – Sidewalks/Sidewalk Furniture/Shelters
  - Open Space
  - Integration of Daycare/Healthcare/Commercial/Retail
- Parking

## Kent Central Gateway Multi-Modal Facility Portage Area Regional Transportation Authority Kent, Ohio



- \$20M DOT TIGER Grant
- 10-Bus Transfer Facility
- Joint Development – Retail Shops, Office Space
- LEED Silver Certified (Solar Panels & Geothermal)
- 300 Parking Spaces – Park-n-Ride

# Normal Illinois Multimodal Transportation Center



- \$22M DOT TIGER Grant
- 68,000 square foot, four story structure
- Joint Development – Food Court, Municipal offices
- LEED Silver Certified
- Amtrak, Bloomington-Normal Public Transit System, Intercity Buses, Taxis

# Bloomington Transportation Center



- \$8.96M project including \$7.5M FTA 5307, 5309 and ARRA funding
- 10,000 sq. ft. including Monroe County emergency services dispatch on 2<sup>nd</sup> floor
- Opened August 20, 2014

# Indianapolis Downtown Transit Center



- FTA approved a documented categorical exclusion environmental review.
- The \$19.5M project includes \$13.5M in FTA funding.
- Groundbreaking 9/25/14.





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