

Active Transportation and Bike Sharing for Communities Large and Small

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\$100 m. US experiment in active transportation

- ❑ Overview of Nonmotorized Transportation Pilot Program: federal transportation law (SAFETEA-LU)
- ❑ Evaluation results and challenges
 - Ambitious national and local goals
 - Mode shift -- from driving to walking and biking
 - From national to local focus
- ❑ What have we learned?
 - Results to date
 - Insights for communities: large and small

Purpose of the Pilot

- ❑ *To demonstrate the extent to which bicycling and walking can carry a significant part of the transportation load and represent a major portion of the transportation solution within selected communities*



GOALS

- 1) *Decrease congestion*
- 2) *Reduce energy usage*
- 3) *Promote better health &*
- 4) *A cleaner environment.*



The Four Pilots: Unique Communities with Varying Populations, Climate and Topography

- 📁 **Columbia, Missouri**
 - Population: 108,500
 - Grant area: 53 square miles
- 📄 **Marin County, California**
 - Population: 250,750
 - Grant area: 520 square miles
- 3) **Minneapolis/Twin Cities, Minnesota**
 - Population: 956,783
 - Grant area: 202 square miles
- 4) **Sheboygan County, Wisconsin**
 - Population: 114,560
 - Grant area: 500 square miles

Different starting points for developing a robust walking and biking network

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Funding Breakdown

- ❑ Each community received over \$25 million
- ❑ Different local investment decisions
- ❑ Program totals
 - Infrastructure = 89 percent
 - Promotion & Education = 8 percent
 - Bicycle Parking = 2 percent
 - Planning = 1 percent

Evaluation for Congress and beyond

- ❑ NTPP Working Group: collaboration on program evaluation
 - FHWA, Pilots, Volpe Center, CDC, Rails to Trails Conservancy
 - Long-term commitment (2005-2014)
 - Community counts and NTPP model
 - Program, community, and project-level evaluation
- ❑ Interim Report to Congress (2008): baseline
- ❑ Report to Congress (2012)
- ❑ Evaluation themes thru 2013:
 - Economic benefits
 - Public health
 - Access: focus on transit connectivity and equity
 - Build-out
- ❑ January 2014 report

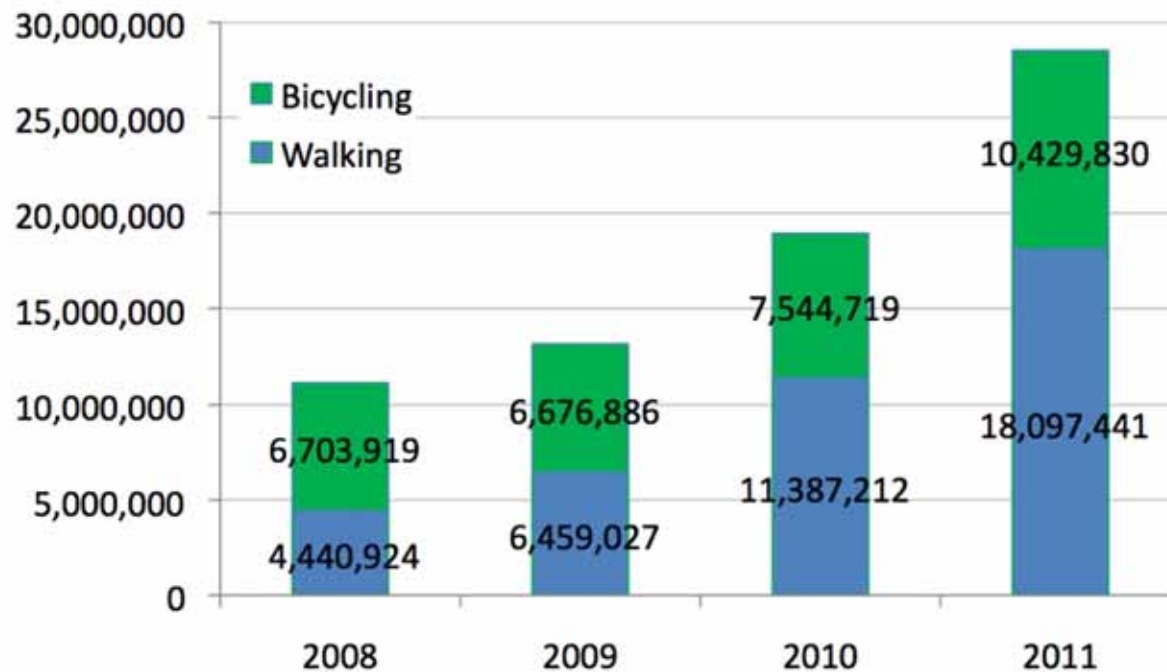
http://www.fhwa.dot.gov/environment/bicycle_pedestrian/ntpp/

Performance Measures to Tell the Story

Goals	Performance Measures
Use of sustainable modes	<ul style="list-style-type: none"> •Mode share -- % of trips or Vehicle Miles Travelled (Vehicle Miles Travelled) •VMT per capita; Passenger Miles (PM)
Air Quality	<ul style="list-style-type: none"> •Reduced hydrocarbons, PM, or CO (VMT) •Per PM
Climate Change	<ul style="list-style-type: none"> •Reduced tons of CO₂ (avoided VMT) •Per PM •Access to transit for evacuation
Access to Work, School, Medical Care, Healthy Food	<ul style="list-style-type: none"> •Walk/bike access to destinations or transit (minutes, distance) •Affordability of transportation (e.g., nonmotorized and/or transit), including combined with housing for low income groups •Equity: focus on low income groups, seniors, children
Health	<ul style="list-style-type: none"> •Physical activity (minutes per capita or trip); all trip purposes •Economic benefits of health improvement (HEAT model) •Civic indicators
Energy	<ul style="list-style-type: none"> •Energy Savings (avoided VMT) •Energy cost/VMT, PM •Energy use per VMT or PM

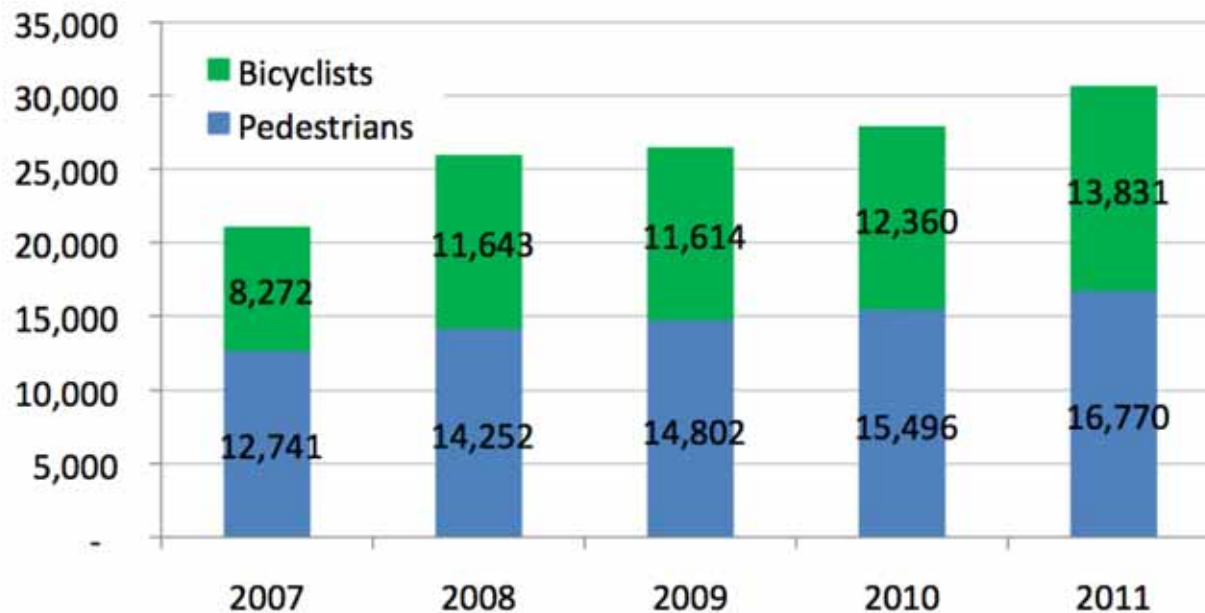
Model Results

- Between 2007 and 2011:
 - 71.7 million averted Vehicle Miles Travelled



Results – Annual Counts

- Between 2007 and 2011:
 - 67% increase in bicyclists
 - 31% increase in pedestrians

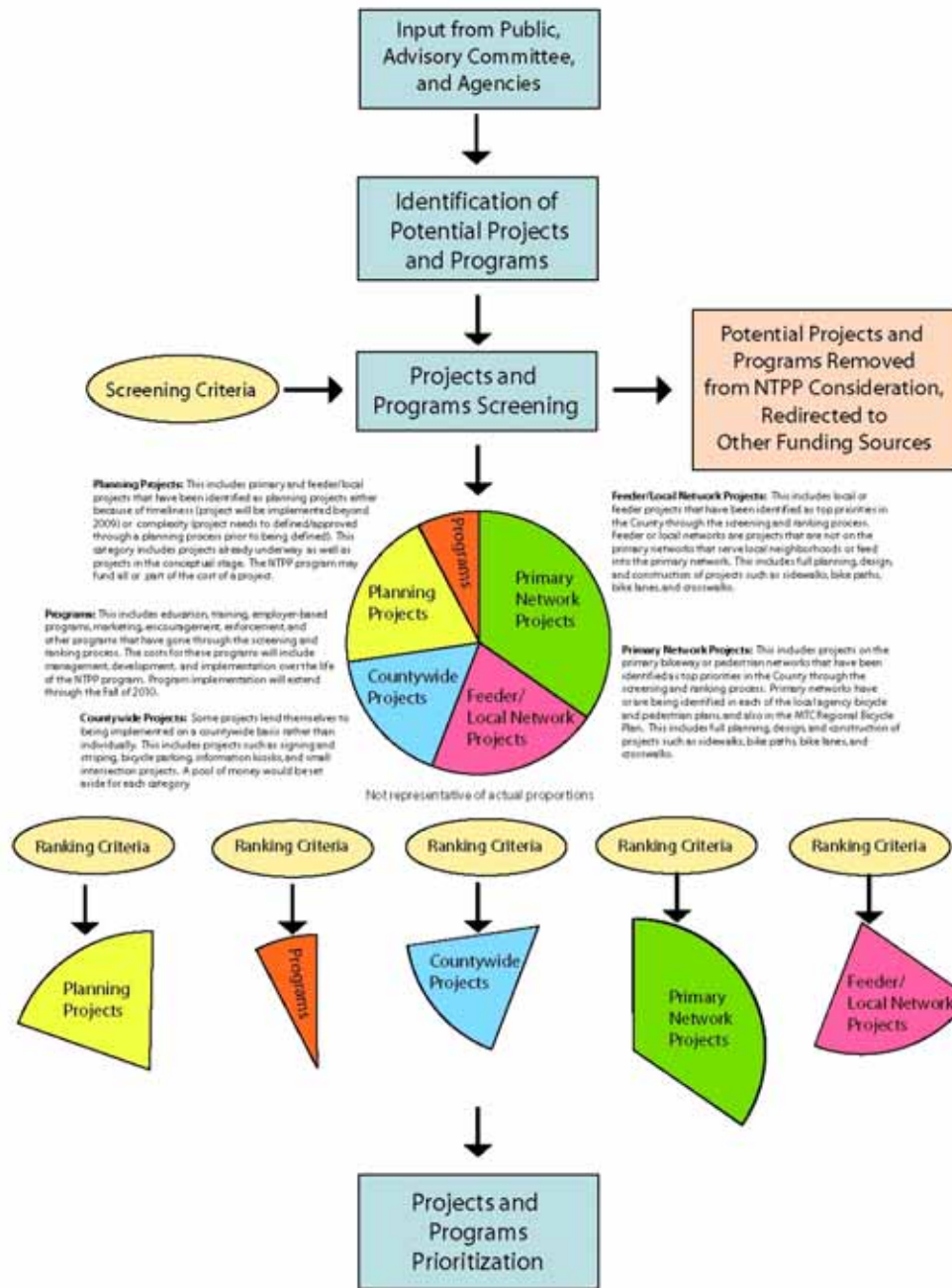


Conversion Results

□ Estimated air quality and energy savings

	2011	Unit	2008-2011	Unit
Hydrocarbons	85,533	Pounds	215,097	pounds
Particulate Matter 10 (PM ₁₀)	327	Pounds	822	pounds
Particulate Matter 2.5 (PM _{2.5})	308	Pounds	775	pounds
Nitrogen Oxide (NO _x)	59,747	Pounds	150,252	pounds
Carbon Monoxide (CO)	779,859	Pounds	1,961,178	pounds
Carbon Dioxide (CO ₂)	23.2	million pounds	58.4	million pounds
CO ₂	32.8	pounds/person	82.5	pounds/person
Gasoline	1,198,625	gallons	3,014,284	gallons
Gasoline	1.69	gallons/person	4.26	gallons/person
BTUs	136.0	Billion	342.1	billion

NTPP Project and Program Identification and Ranking Process



Cal Park Hill Tunnel Rehabilitation and Pathway Design Project





Cal Park Tunnel – Opening Day

Sheboygan County Highlights

- ✓ First non-motorized comp plan: from recreation to transportation
- ✓ Educating planners & engineers
- ✓ Focus on access to schools
- ✓ Strong connections with businesses and employers
- ✓ Build support through community events
- ✓ Bike corridors and gap closures



Columbia City Highlights

- ✓ Emphasis on promotion and education;
- ✓ Maximizing opportunities of university town setting to influence travel behavior;
- ✓ Partnerships with law enforcement to increase awareness of bicycle rights and responsibilities;
- ✓ Partnerships with local businesses;
- ✓ Leveraging additional funds and local support.



Institutionalizing Data Collection

Pilot Evaluation

- Updated products; one pagers, etc.
- Congressional Report
 - Community wide modeling
 - Project specific Impacts
- Longitudinal tracking of outcomes

Local Measurement

- Annual Benchmarking
- Location based trends
- Project Outcomes
- Daily/annual volume estimations

Other Uses

- Support of local/national research efforts
- Educate local officials & Public
- Inform Planning Studies
- Provide data via web portal
- Prepare special reports for local analysis
- Institutionalize nonmotorized travel data

Weekday Counts Lake Street Bridge



A few lessons learned

- ❑ From positive...to how positive?
 - Quantify to compete for funds
 - Performance measures to demonstrate results
- ❑ Role of a plan
- ❑ Set ambitious goals
 - Energy, environment, health, affordability, livability
- ❑ From claiming to demonstrating
 - Count, measure, evaluate, present
- ❑ Time horizon – go long
- ❑ Regional and project scale
 - Walk & bike as part of multimodal system
- ❑ Importance of institutional side
 - Role of new partners
 - Sustaining new service
 - Mainstreaming in the planning process



Telling More of the Story

- ❑ Continue to improve model
 - Update analysis with 2012 and 2013 data
- ❑ Collaborate with CDC: estimate health benefits
 - Add walking to biking
 - Adding morbidity to mortality?
- ❑ Broader economic benefits
- ❑ Measure improved access (GIS from baseline)
 - To transit
 - For targeted communities
 - Specific projects – e.g., Twin Cities bike share
- ❑ Forecast build-out
- ❑ Case studies: developing an expanded role for active transportation
 - 4 models of success
- ❑ 2014 Report

Contact Information

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- ❑ FHWA's Nonmotorized Website and NTPP:
 - www.fhwa.dot.gov/environment/bicycle_pedestrian/ntpp