



Protecting Our Transportation Investment

and recognizing the co-benefits

Presented by:
Ronald T. Milam, Fehr & Peers

BRIDGES



C+

RAIL



C+

ROADS

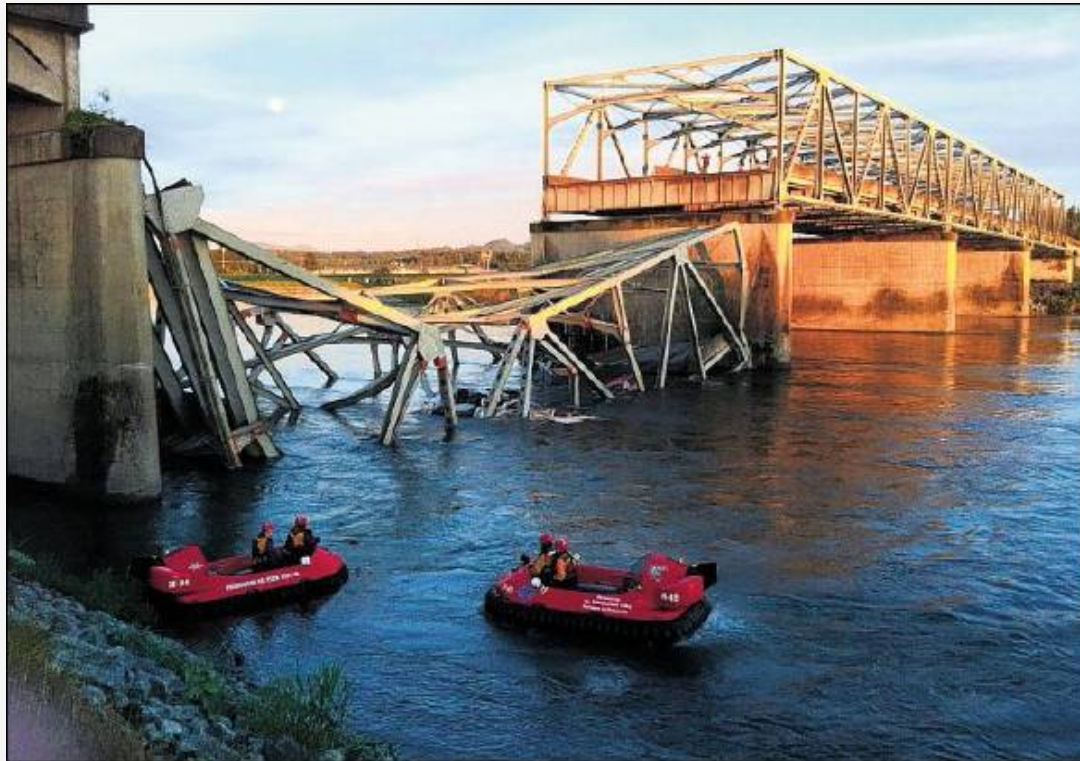


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Revenue or Spending Problem?


I-5 bridge section falls north of Seattle

SEATTLE – A large section of a bridge on Interstate 5 north of Seattle collapsed Thursday evening, sending vehicles and people plunging into the swirling, icy waters of the Skagit River.



**** THE WALL STREET JOURNAL.

U.S. NEWS



From the Ground Up
 Projected needs and funding for infrastructure systems based on current trends, through 2020 (all figures in billions)

Category	Needed (\$ billions)	Projected federal funding (\$ billions)
SURFACE TRANSPORTATION	\$1,724	\$877
ELECTRICITY	736	629
AIRPORTS	134	95
WATER/WASTE-WATER	123	42

Source: American Society of Civil Engineers

governors are pushing to raise revenue to fund fixes for creaky infrastructure. Here, renovations on the George Wade Bridge in Pennsylvania.

States Look to Pay Repair Tab

By KRIS MOON

designated as structurally deficient, meaning engineers have

ing to the nonpartisan group.

Michigan's Republican Gov

how many miles they drive

Deaths in accidents being

raised over spring infrastructure

Revenue Problem?

U.S. keeps building new highways while letting old ones crumble

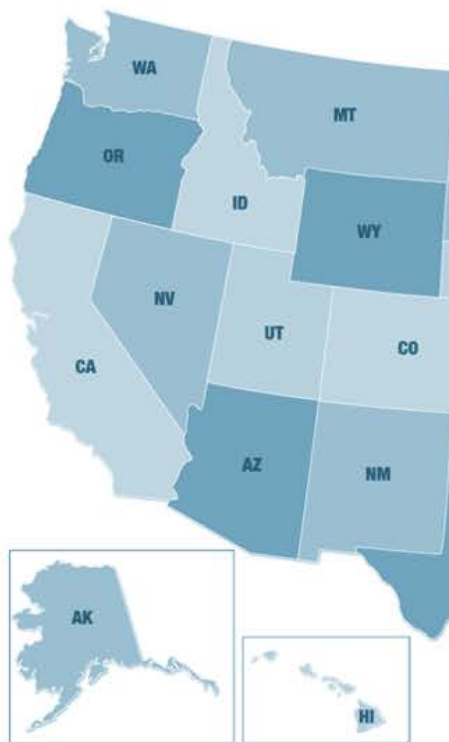
McClatchy Newspapers (Curtis Tate and Greg Gordon)

Posted: 02/03/2013 9:54 AM

In California, transportation officials estimate that 60 percent of the state's roads and a quarter of its bridges need to be repaired or replaced, at a projected cost of \$70 billion over a decade, some \$52 billion more than the available funds.

Repair Priorities Map

Use the map below to find out how much each state spent to get its roads into good condition and keep them that way. C



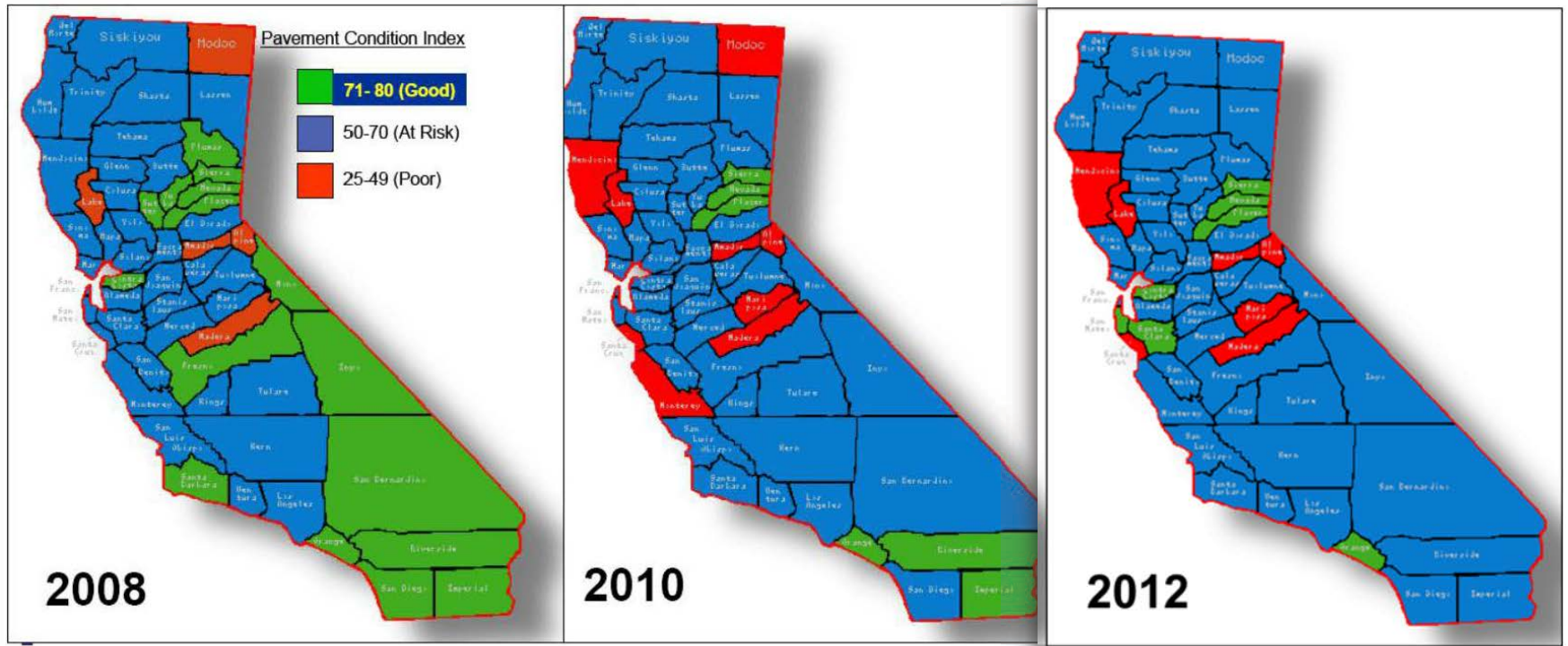
California

70% of California's roads have fallen out of good condition, and it would take approximately \$1,277,422,682 per year over the next twenty years to bring all of the state's roads into good repair and keep them that way. Despite this need, between 2004 and 2008 California spent 20% of its highway capital funds on road expansion - \$790,707,369 - but only 17% on road repair and maintenance - \$674,290,234.

[Read More](#)

Spending
Problem?

Average Pavement Condition by County



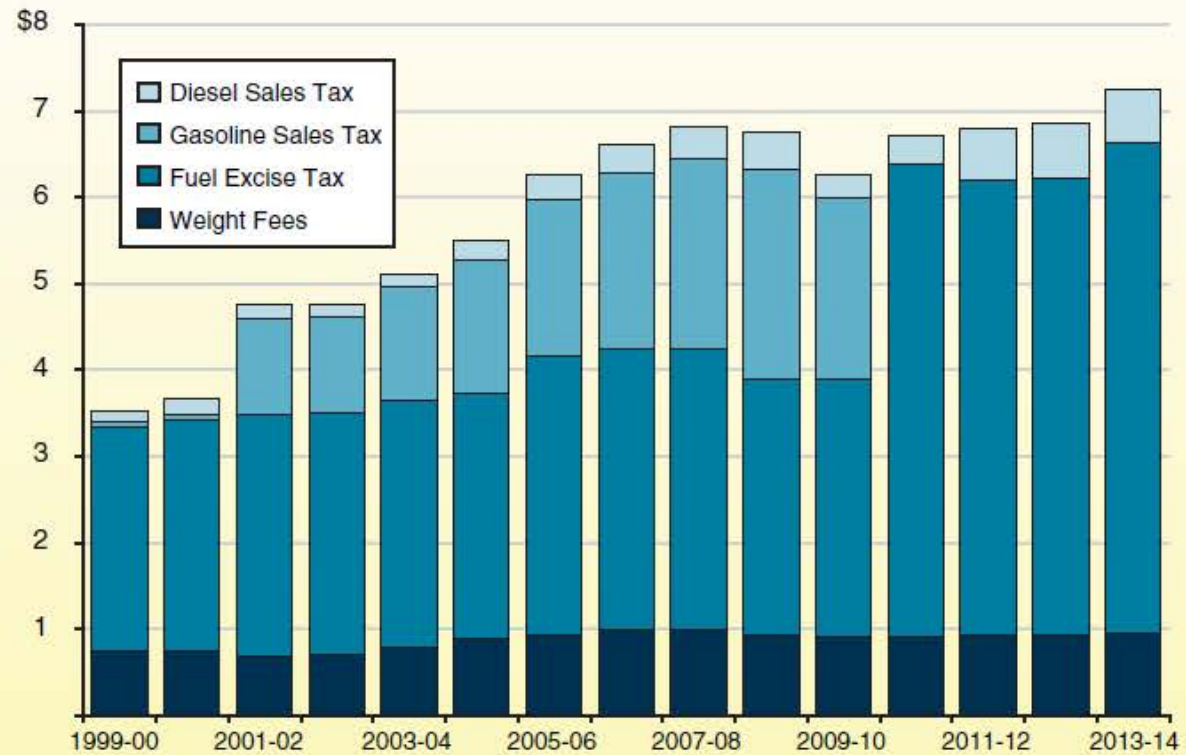
Source: California Statewide Local Streets and Roads Needs Assessment, February 2011, Prepared for CSAC/League of California Cities

Deteriorating Network Quality

Pavement condition is getting worse

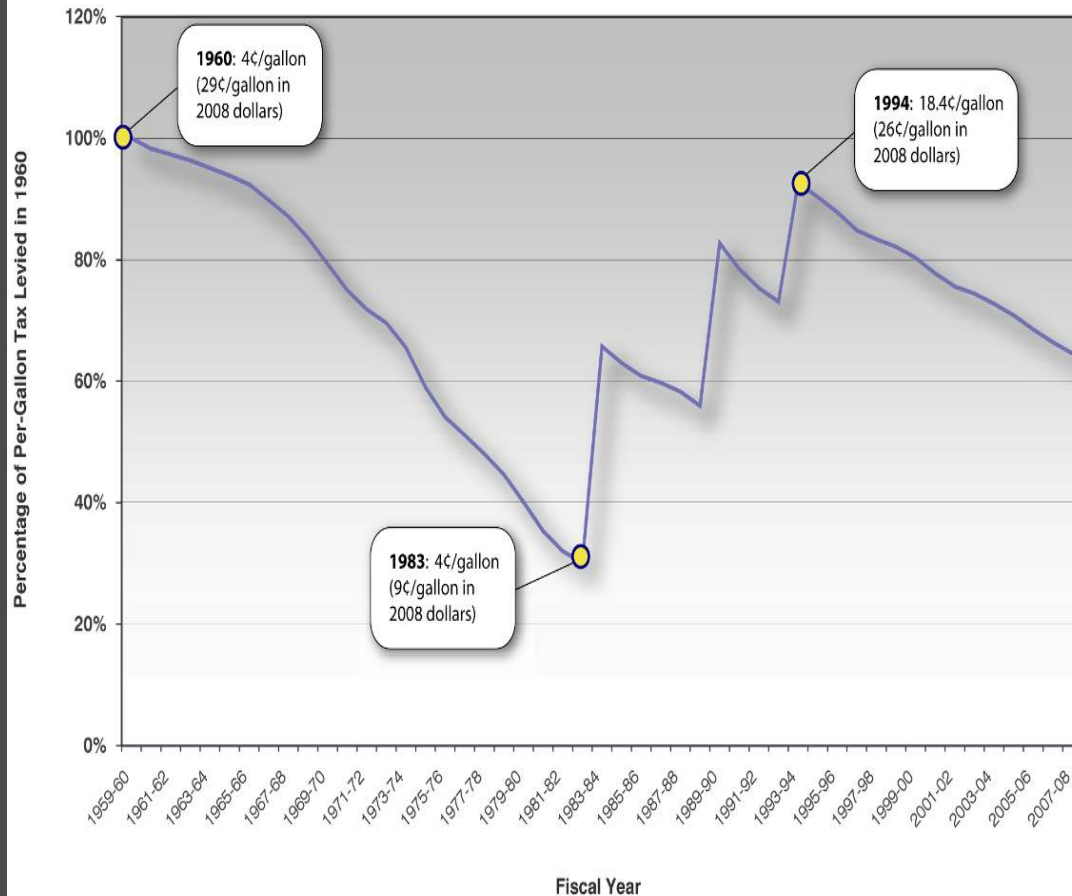
State Transportation Revenues Have Increased

(In Billions)



Total state transportation revenues have roughly doubled over the past 15 years—from \$3.5 billion in 1999-00 to an estimated \$7.2 billion in 2013-14.

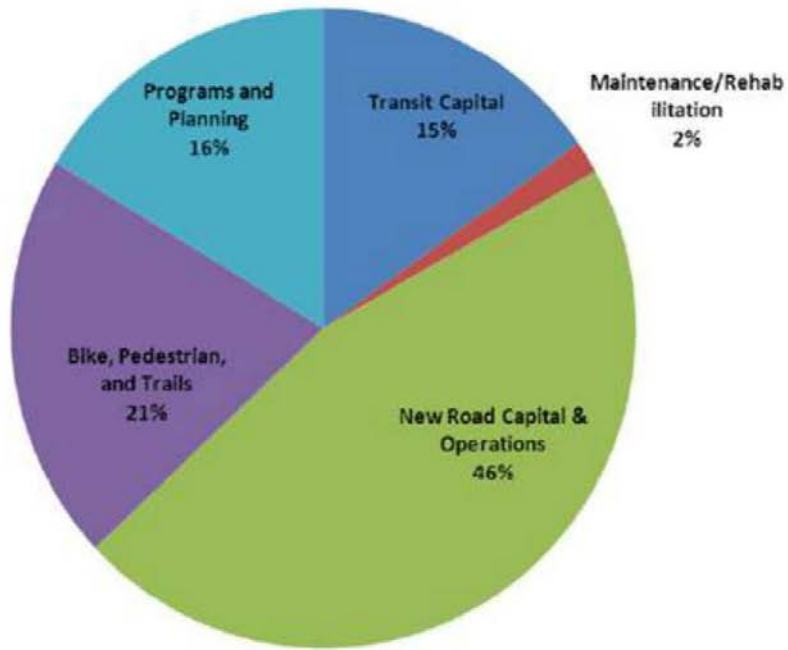
VALUE OF PER-GALLON FEDERAL GAS EXCISE TAX IN CONSTANT DOLLARS (1960-2008)



Declining Purchasing Power

Declining due to inflation,
increasing fuel efficiency,
increase construction
costs

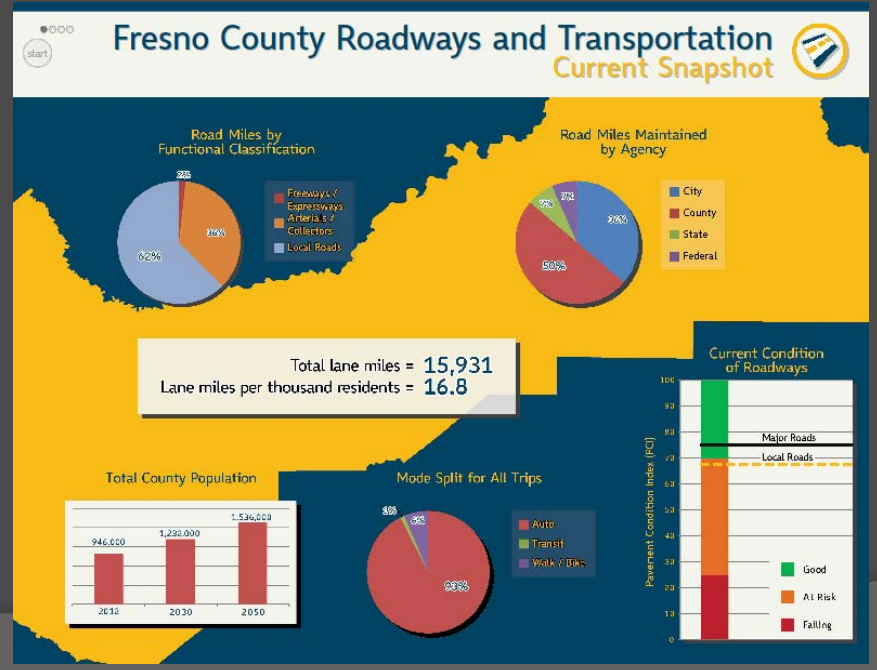
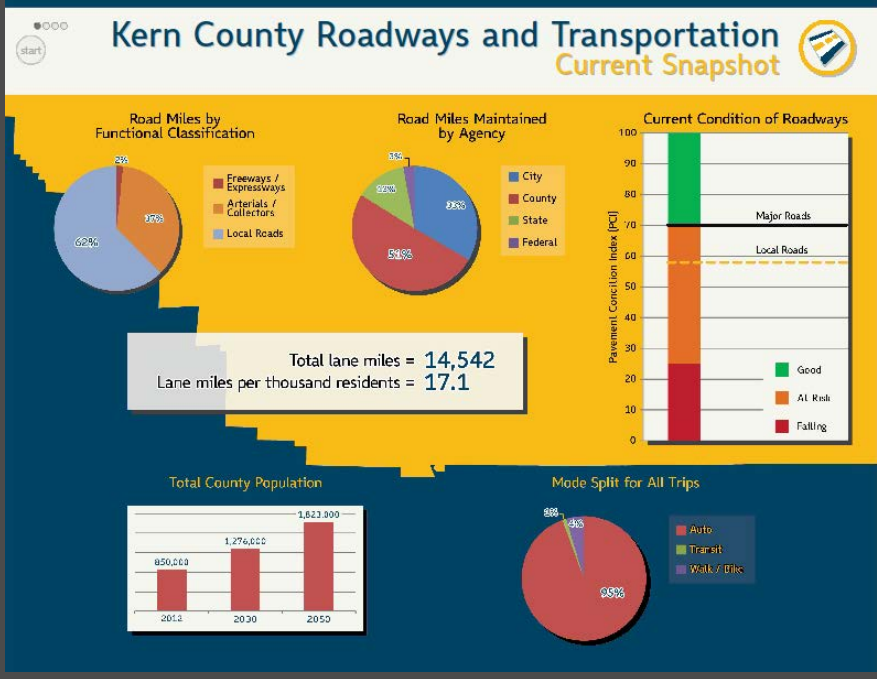
Figure B1.1. Discretionary Funding Distribution



Source: SACOG 2035 MTP/SCS

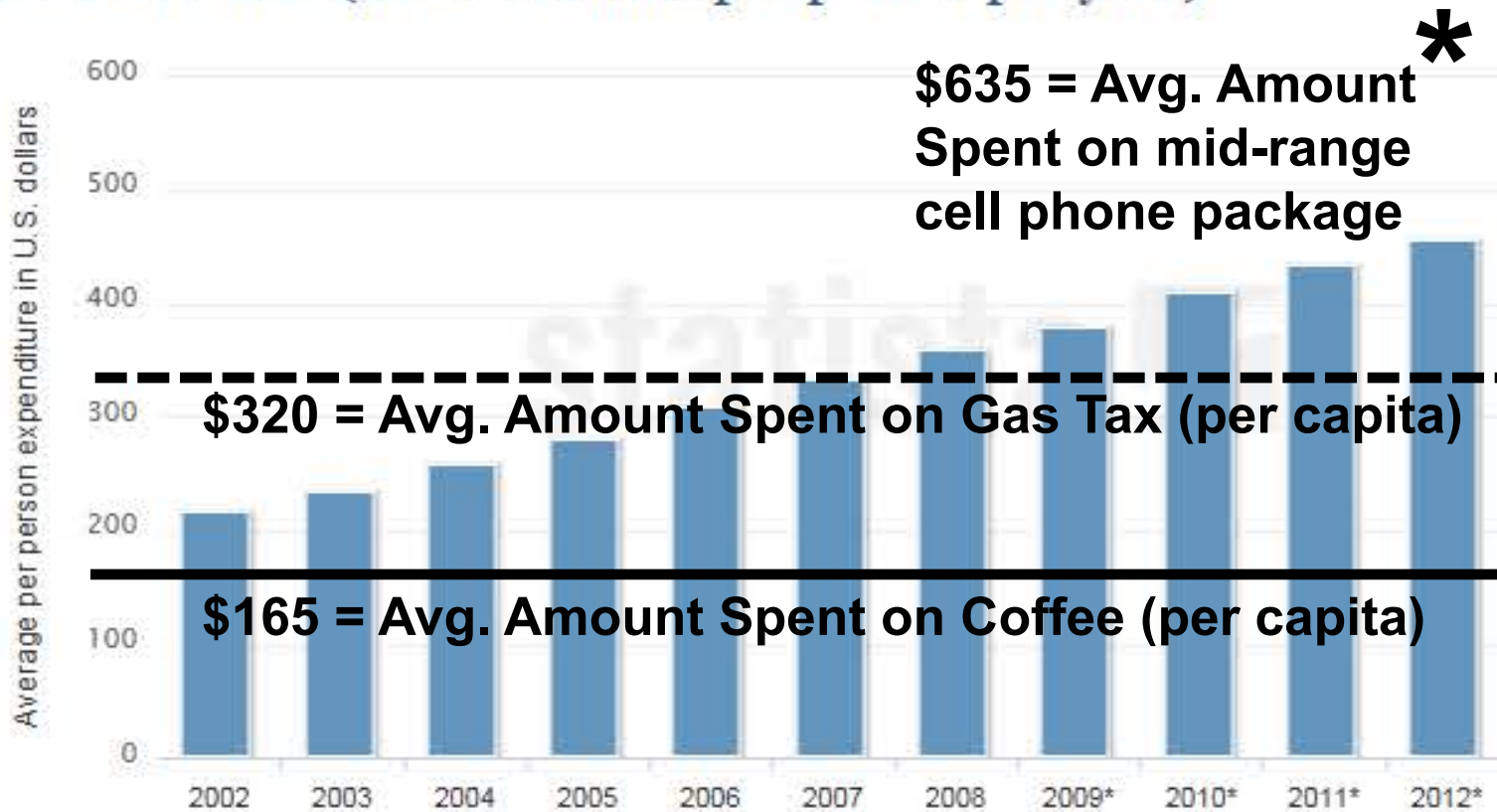
Exacerbating the Problem?

What role do spending decisions play?



Exacerbating the Problem?
A Case Study

Average amount of money spent on television in the U.S. from 2002 to 2012* (in U.S. dollars per person per year)



United States; Veronis Suhler Stevenson

Source: U.S. Census Bureau

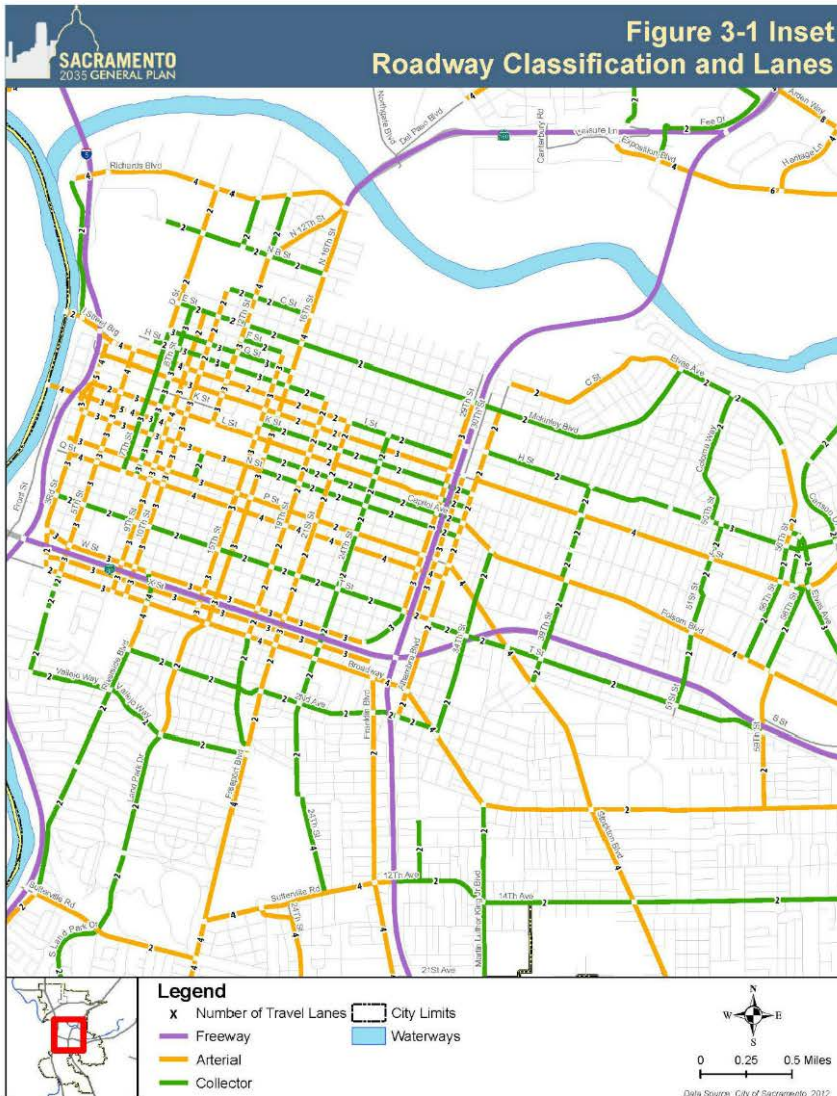
© Statista 2012

Spending Priorities



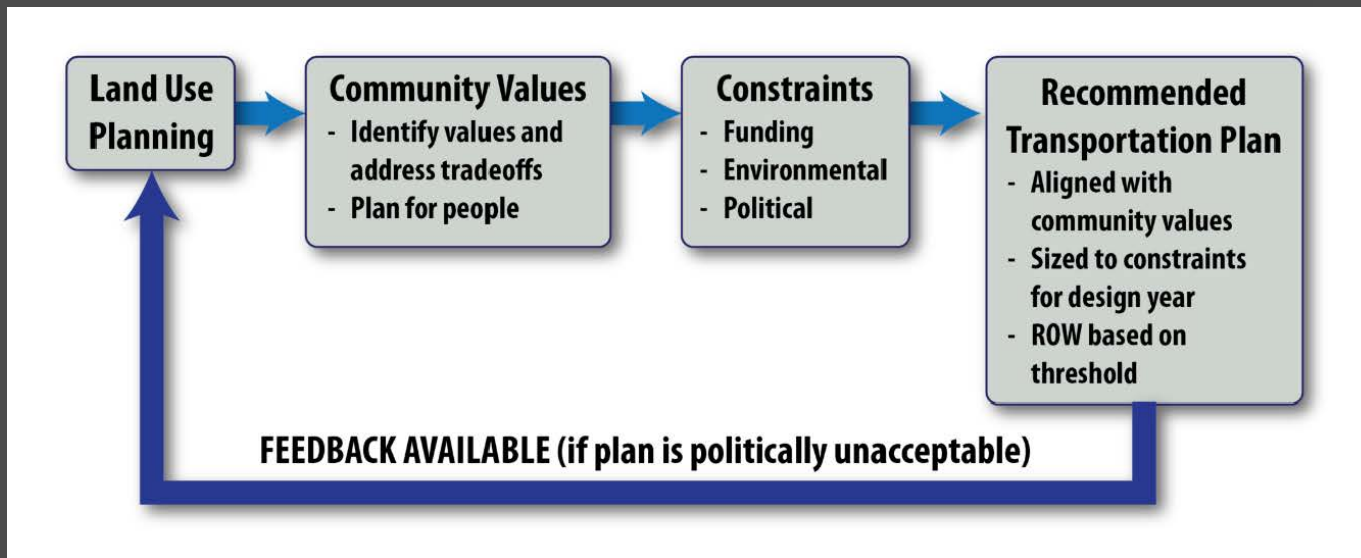
Traditional Planning Paradigm

Planning beyond our means...



Conventional Transportation Plan

Expanding the problem...



New Planning Paradigm

Aligning community values and financial means...



Alignment Example for Local Agencies

Increase utilization...

New Performance Metrics

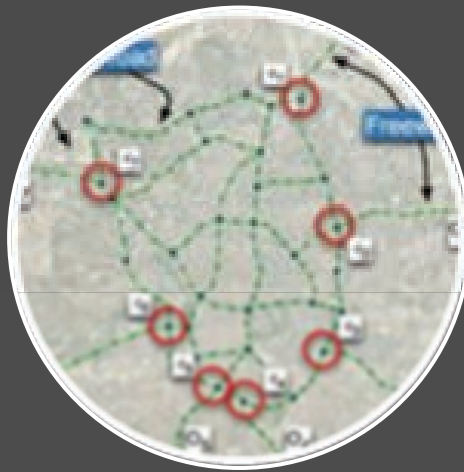
ACCESSIBILITY...

Access to places and other people

Proximity



Connectivity



Travel Modes



Sources:

Dan Sturges - <http://vimeo.com/78749701>

Fehr & Peers

Compact Urban Development versus Conventional Suburban Development

38%

Potential reduction in upfront
infrastructure costs

10%

Potential reduction in police,
ambulance, and fire service costs

10x

Potential increase in tax
revenue generation

Urban Form Effects

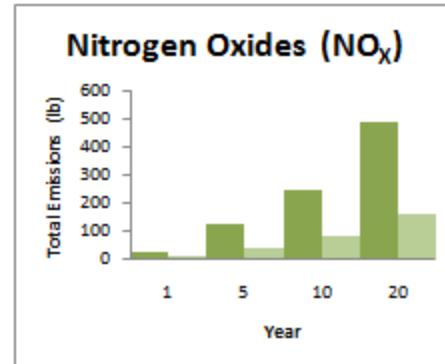
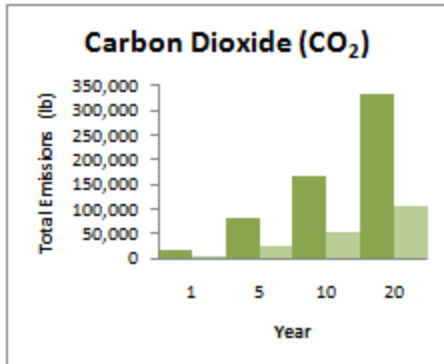
*Building Better Budgets by Smart
Growth America, 2013*

ENERGY & COST CALCULATION

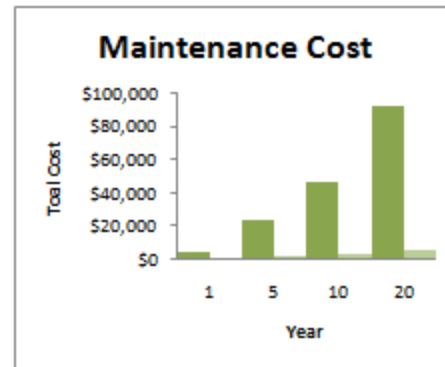
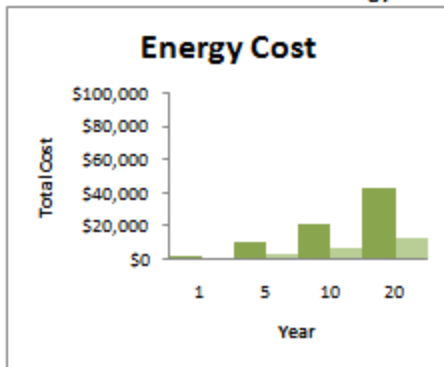
Signal vs Roundabout Intersection

■ Signal ■ Roundabout

Emissions



Energy and Maintenance Costs



Cost Effectiveness

While short-term costs may be similar... long-term costs tell a different story



Network Investment Changes

Spending like a Business or a Utility?



Questions & Discussion

Legislature Should Consider Prioritizing Funding

- It is likely that reduced levels of funding will be available for transportation purposes in the future. This means the Legislature will need to prioritize expenditures for these programs.
- The state's core transportation programs are the maintenance and reconstruction of the state's existing highways. The two programs through which this work is performed—Highway Maintenance and SHOPP—are both already significantly underfunded, our analysis shows. Given these likely fiscal restraints, the Legislature should consider prioritizing funding for these programs over other transportation purposes, such as new construction.
- Opportunities may exist to reduce traffic congestion with operational and demand management tools, which could cost significantly less than building capacity expansion projects. The Legislature should direct Caltrans to report on whether and to what extent it plans to expand the use of operations and traffic management strategies. The Legislature may wish to consider prioritizing funding for lower-cost operational improvements over capacity-increasing capital projects.

Spending Decisions and Priorities

Aligning expectations with funding...



Paul Chinn / The Chronicle

Do we need more O&M spending?

- State Highway System = 50,500 mile
- Local = 303,000 mile
- Total = 353,500 mile

At \$10,000 per mile, that's about \$3.5 Billion annually.

17 Future-Shaping Phenomena

SOCIAL TRENDS

- Socio-Demographic Shifts
- Generational Preferences
- Peer Ridesharing

MOBILITY SERVICES

- Subscription Cars
- Subscription Bikes
- Taxi Apps

CONNECTED VEHICLES

- Real-Time Driver Info
- Smart Parking
- Self-Parking Cars
- Semi-Autonomous Cars
- Autonomous Cars

INNOVATIVE TRANSIT

- Downtown Catalyst Transit
- Transit Performance Info
- New Tech Transit

PLANNING MOVEMENTS

- Modal Balance
- Bigger, Better Data
- Goods Movement Logistics

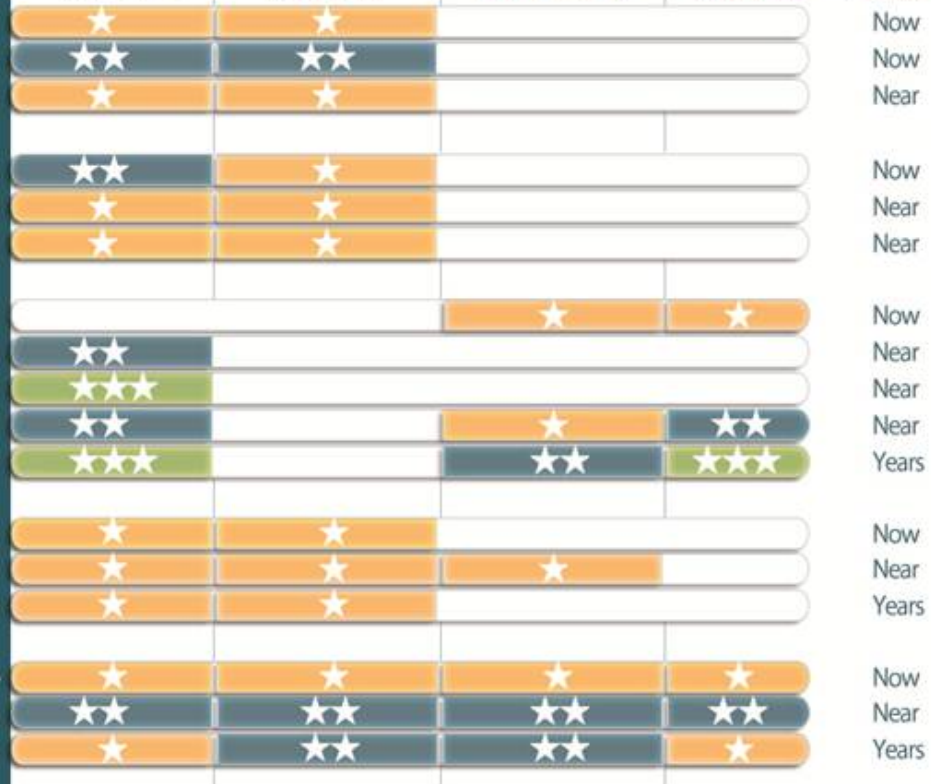
LESS
PARKING

LESS
DRIVING

CAPACITY
EFFICIENCY

SAFER
STREETS

TIME
FRAME



LEVEL OF BENEFIT: ★

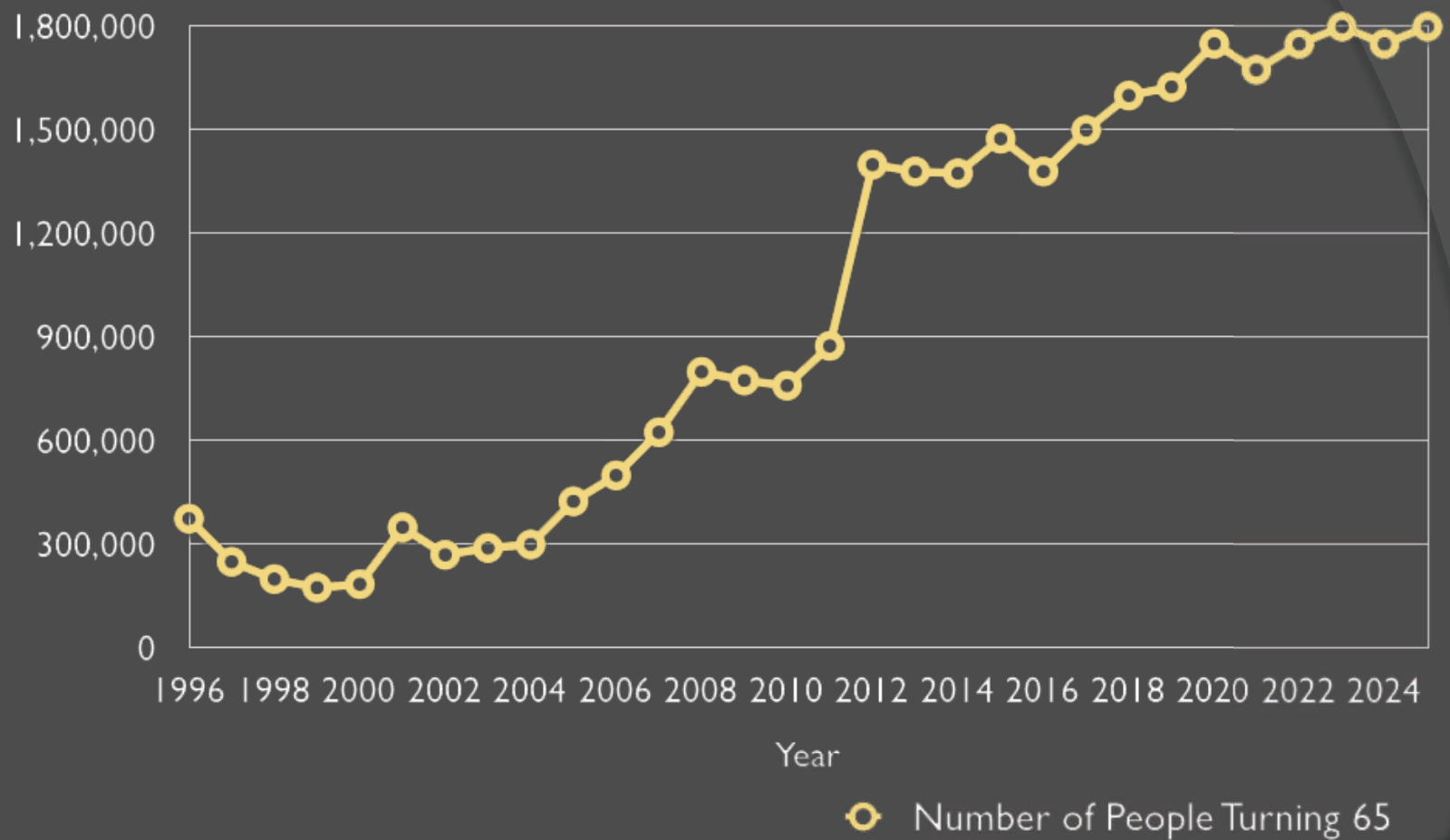
Trends

*Moving from single use to multiple use...
(one travel choice to many travel choices)*



Trends

Less single family household creation and demand, increased single person households and new demand for smaller mixed use communities and products, plus...



Market Changes

will be influenced by demographics...

Completing the Streets...



Before



After

Source: <http://t4america.org/images/cs-before-after3.jpg>

Effective use of existing facilities...



Solutions

Not just more money...



Land Use Changes

30-44 percent reduction in trips from mixed-use, transit-oriented, and infill development patterns...