

Developing Effective Active Transportation Projects and Programs

Support for Smaller Agencies and Disadvantaged Communities



Module 2: ATP Goals and the Land Use Connection



Overview

- The Land Use/Community Design Connection
- Why Active Transportation is Getting More Attention
- State Policies
 - AB32
 - SB375/SB391
 - SB99
- Purpose of the Active Transportation Program

This module takes a step back and looks at the broader context for the ATP. In particular, we discuss the importance of good land use planning and community design which, while not directly part of ATP, strongly influence whether residents can walk or bike. We then discuss some of the reasons why active transportation is getting more attention these days, followed by a discussion of some of the legislative mandates that relate to land use, transportation and the ATP. We conclude with a brief discussion of the purpose of the ATP based on language in SB99.

Why do we have towns and cities?



To minimize travel and maximize exchange

It's helpful to remember that towns and cities were invented or created by human beings because we are social beings that depend on one another for our survival. Towns and cities allow us to share goods, services, friendship and knowledge. Towns and cities allow us to reduce our travel and maximize exchange.

How have we built our urban roadway system?



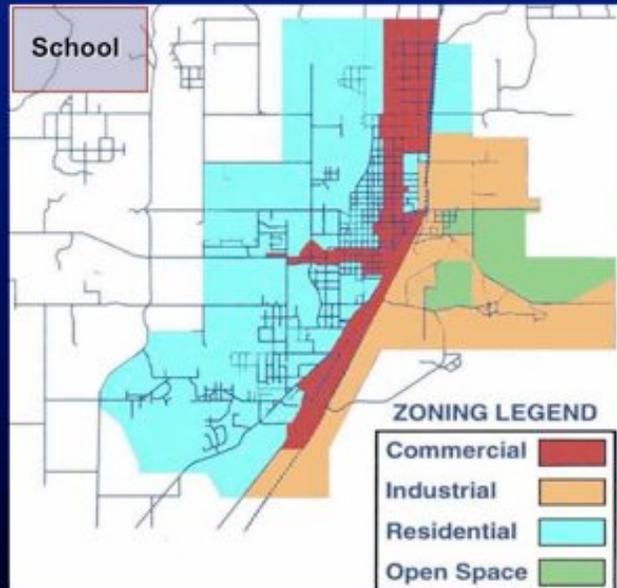
To facilitate travel over longer distances

However, since World War 2, we've forgotten why we have cities and have facilitated travel over longer distances, making cities less livable. Another irony: we've gained no net time, we spend more time in transport nowadays than our grandparents did.

Reducing travel demand is best achieved through **Land Use** policies that bring destinations closer together

The problem:

- Commercial activities concentrated in auto-dominated corridors
- Segregated land uses
- Result: Long travel distances, not conducive to walking or bicycling

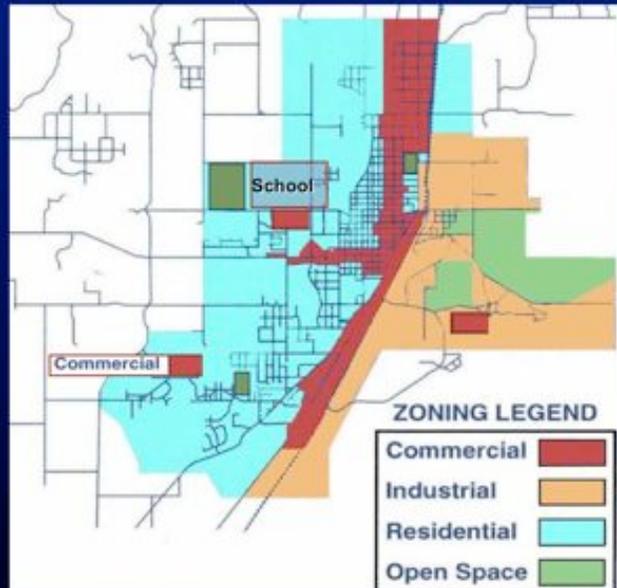


This slide shows some of the problems with current land use patterns that make it difficult for people to walk or bike in some communities.

Reducing travel demand is best achieved through Land Use Policies that bring destinations closer together

Potential solutions?

1. Allow small-scale retail in neighborhoods
2. Create neighborhood parks
3. Site school closer to residences and parks



This slide shows some potential solutions:

- 1) Allowing some commercial development in neighborhoods and where people work would make it possible for residents to make more walking and bicycling trips for some services.
- 2) Siting schools closer to where people live makes it possible for kids to walk to school.
- 3) Siting the school next to a park reduces the need to provide athletic fields; so the footprint can be smaller. The school District can buy the more expensive land closer in.

The Land Use-Transportation Connection

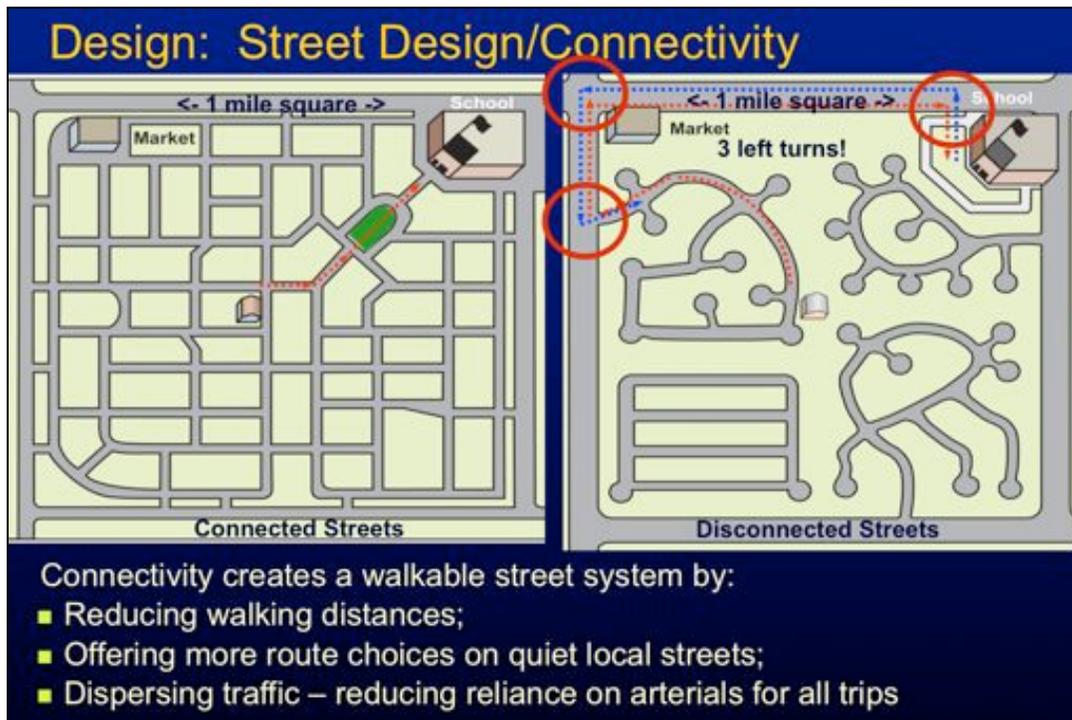
- How and where we travel is related to land uses and community design
- Research has found link between travel demand and what are called the 5 “D”s:
 - Density: persons, jobs or dwelling per unit area
 - Diversity of Uses: land use mix
 - Design: street connections, street design
 - Destination Accessibility: jobs other attractions nearby
 - Distance to Transit
 - Parking supply and cost (6th D?)

Research on these issues dates back to mid 1990s. Original paper by Professor Robert Cervero and others at UC Berkeley was published in 1997 (Travel Demand and the 3Ds: Density, Diversity and Design). Based on research on 50 neighborhoods in SF Bay Area. Among the conclusions: “Research findings lend credibility to claims... that compact, mixed-use pedestrian-friendly designs can ‘degenerate’ trips, reduce VMT per capita, and encourage non-motorized travel”, “Densities exerted strongest influence on personal business trips”, Residential neighborhoods accessible to commercial activities “tended to average appreciably less VMT per household”, “Higher densities, diverse land uses, and pedestrian-friendly design, we believe, must co-exist to a certain degree if meaningful benefits are to accrue.... The synergy of the 3Ds in combination is likely to yield more appreciable impacts.” Additional research over the years has also emphasized the importance of the other 3 bullets.

Density/Diversity: Typical in older neighborhoods



This slides illustrates the first 2 Ds: Density and Diversity. As can be seen in this image, density and diversity (or mix of uses) is not a new concept but is the way that many towns and cities were built before we started spreading out in suburbs and building transportation systems around the car.



This slide focuses in on the third D, Street Design, and specifically on connectivity.

Slide shows two one-mile square neighborhoods with a house in the center of the neighborhood. Image on the left shows how in a traditional connected street system, it's possible to walk to school from the neighborhood. On the right, the lack of connected streets (or trails) makes it very difficult for children to walk to school. In this neighborhood, kids are typically driven to school. This means more traffic on the arterials. The trip home requires three left turns, which often creates the needs for stop signs or signals. This in turn causes more congestion and wider streets, as virtually all trips must be made on arterial streets. On the left, even if people drive, they are less reliant on the arterial system, as they have more access points.

Source: FHWA Designing for Pedestrian Safety course.

How much can this type of development reduce Vehicle Miles Traveled

- Compact and mixed use development facilitates active transportation, which can **reduce per capita VMT by 20 to 50%** relative to trend



Source: Ewing, Winkelman, et. al. "Growing Cooler", 2008 (ref. various sources)

The book *Growing Cooler* (listed in the resources web site), summarizes a lot of the studies done on travel demand and makes the case that good community design can reduce VMT by 20-50%.

Why Active Transportation is Getting More Attention

- Changing Demographics
- Public Health Concerns
- Livable Communities/
Smart Growth/New Urbanism
- Climate Change

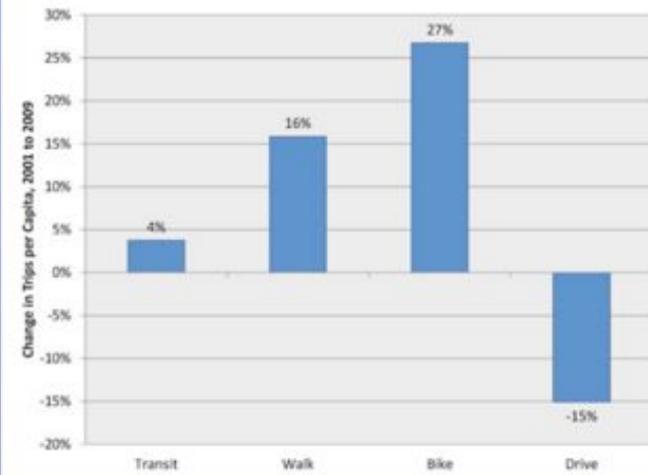


Slides that follow elaborate on these four points.

Changing Demographic Trends: Millennials

- Moving to downtowns and older neighborhoods
- Driving less and looking for other transportation options

Figure 2. Change in Number of Trips per Capita among 16 to 34 year-olds, 2001 to 2009¹⁷



www.copirg.org/sites/pirg/files/reports/Millennials%20in%20Motion%20CoPIRG.pdf

Demographic Changes: The change in the number of trips per capita among the millennials, ages 16 to 34, show that this cohort of the population is driving less and using transit, walking and bicycling more.

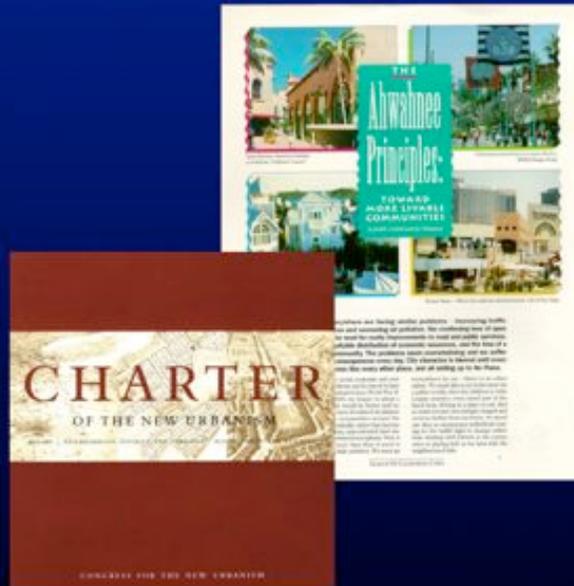
Public Health Concerns: Active Transportation as public health strategy



Public Health Concerns: Since the late 1990s public health has been alarmed by the increase in obesity and sedentary lifestyles. In those years the CDC and Robert Wood Johnson Foundation started to look at how the way we build our communities impacts health.

Livable Communities/Smart Growth

- Late 1980s/early 1990s architects/urban designers/planners started proposing development of walkable, bicycle-friendly compact communities
 - Ahwahnee Principles
 - Sustainable Development
 - Smart Growth



Emergence of Livable Communities/Smart Growth/New Urbanism:

Since the mid-1980s we've also seen architects, planners and urban designers work to identify ways to build more walkable, bicycle-, and transit-friendly communities. Started with architects in Florida, Duany Plater-Zyberk working on Traditional Neighborhood Development and in California, Peter Calthorpe, proposing Transit-Oriented Development. These concepts were first put together by the LGC with help from some of these architects and planners and presented in 1991 at the Ahwahnee Hotel in Yosemite, as the Ahwahnee Principles for Resource-Efficient Communities. About 6 years later the term Smart Growth emerged. Many of these concepts have been subsumed under the term Sustainable Development which emerged in 1987 at a UN Conference on the Environment (the Brundtland Report) and is defined as development that meets the need of the present without compromising the ability of future generations to meet their own needs.

Climate Change: California's Response: AB 32, Global Warming Solutions Act of 2006

"Using market-based incentives, we will **reduce carbon emissions to 1990 levels by the year 2020**. That's a 25 percent reduction. And **by 2050, we will reduce emissions to 80 percent below 1990 levels**. We simply must do everything in our power to slow down global warming before it's too late."

— Governor Arnold Schwarzenegger
September 27, 2006



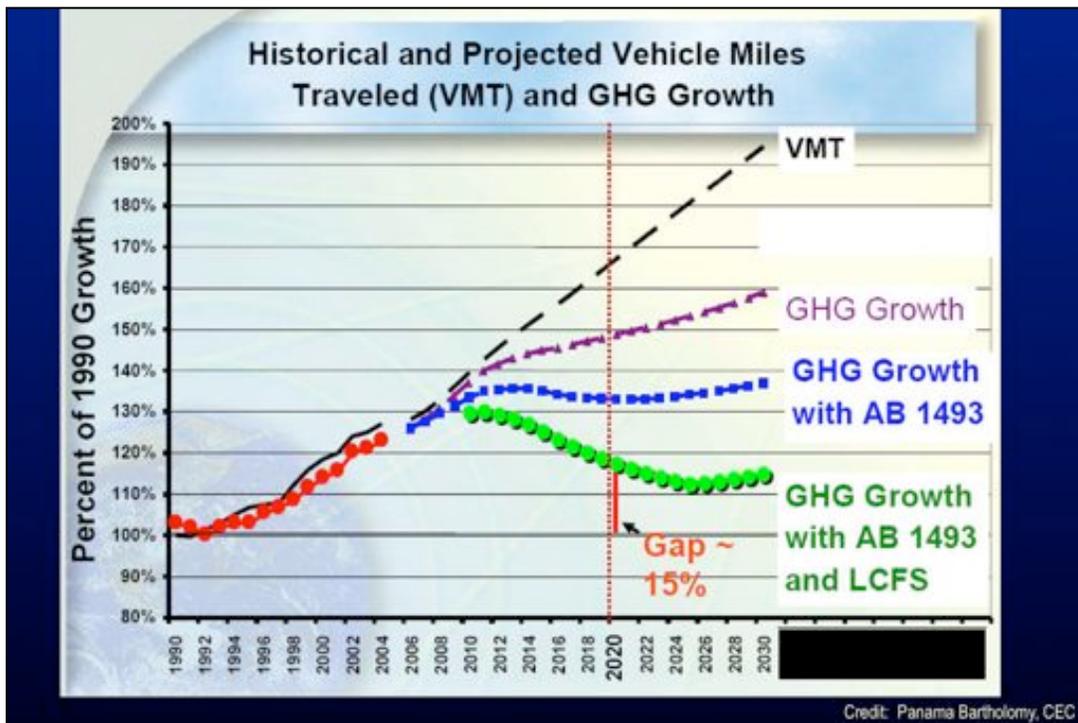
And finally climate change. California in 2006 set bold greenhouse gas reduction targets. Assembly Bill 32 (AB32) requires statewide emissions reductions to 1990 levels by 2020, or about 30% below business as usual and 80% below 1990 levels by 2050.

Transportation in California:

Largest Piece of the Greenhouse Gas Emissions Pie



When we look at the sources of greenhouse gas emissions in California, transportation is the biggest piece of the pie at close to 40%. This differs from many other states where power generation or industry account for the largest share of emissions.



... as this slide shows the reductions from vehicle technology improvements (AB1493) and lower carbon fuel standards won't be enough to reduce GHG emissions to 1990 levels by 2020. We still will have a gap, projected in 2006 to be about 15%. To meet that goal we will also need to work reducing Vehicle Miles Traveled.

Tremendous Potential of Active Transportation

Of all trips:

50%

are less than
3 miles

... a 12-minute
bicycle ride

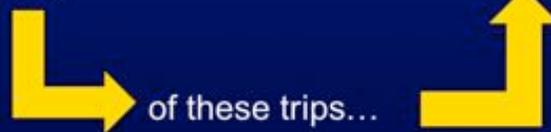
28% are

less than
1 mile

... a 20-minute walk

60%

are driven



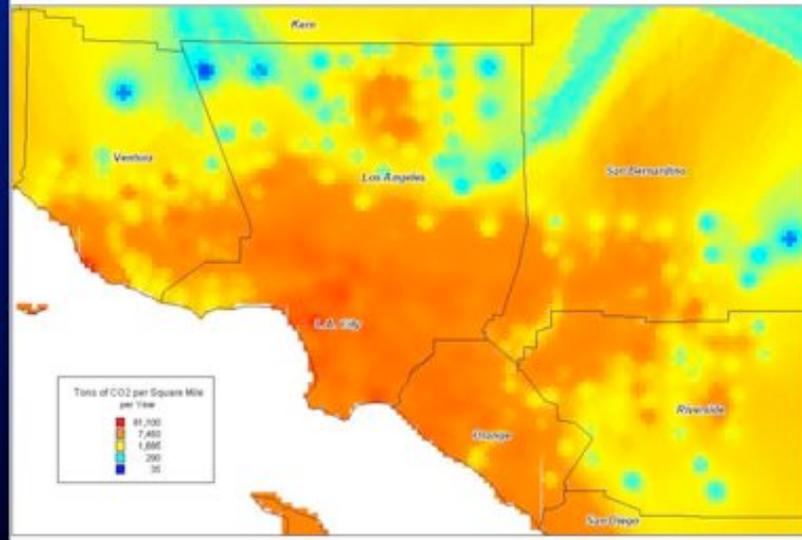
National Household Travel Survey (2009)

On the plus side, in most communities there are a lot of trips that are under 3 miles and that potentially could be shifted from driving to walking or bicycling.

Data: National Household Travel Survey, 2009

Why Community Design Matters...

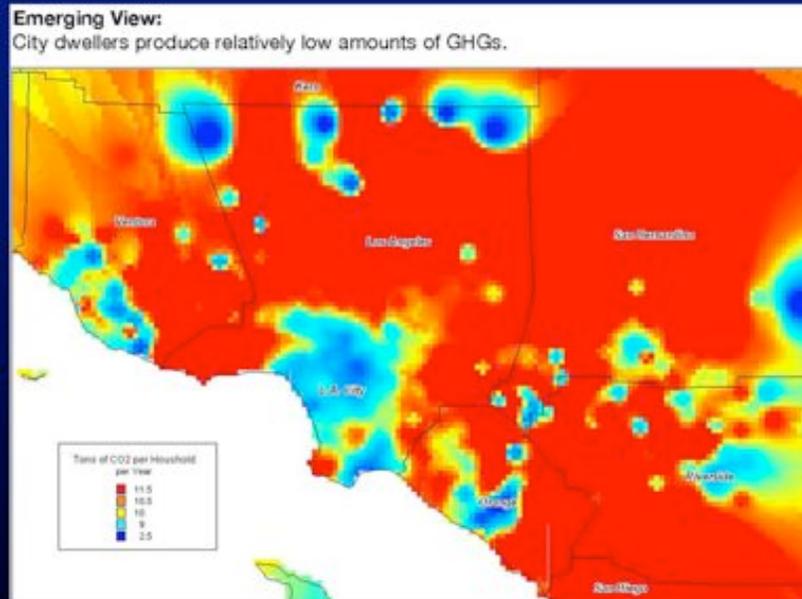
Traditional View:
Cities produce large amounts of GHGs.



Source:
www.travelmatters.org
(Center for Neighborhood
Technology)

This map of Los Angeles and the slide that follows help make the point that how we build and where we live impacts GHG emission reductions significantly. The traditional or conventional view might be that cities produce large amounts of GHG emissions as shown in this slide. However...

Why Community Design Matters...



... when we look at GHG emissions per household, we see that in fact residents of denser cities produce much lower levels of greenhouse gases than residents of outlying, suburban areas.

Senate Bill 375 — Linking Transportation & Land Use

1. Creation of **regional targets** for greenhouse gas emissions reduction tied to land use
2. A requirement that regional planning agencies create a **Sustainable Communities Strategy** to meet those targets
3. A requirement that **regional transportation funding decisions be consistent** with this new plan.



Recognizing the land use/transportation connections, Senator Darrell Steinberg in 2008 proposed SB 375 which links the need for greenhouse gas emission reductions called for in AB32 to land use/community design policies in California.

Senate Bill 375 (continued)

4. **Tethering together regional transportation planning and housing efforts** for the first time.
5. **New CEQA exemptions and streamlining** for projects that conform to the new regional plans, even if they conflict with local plans.



Senate Bill 391

- Requires Caltrans to develop the California Transportation Plan (CTP) to address how the State can meet climate change goals under Assembly Bill 32
 - Identify the **statewide, integrated multimodal transportation system** needed to **achieve the maximum feasible greenhouse gas emission reductions** in response to Senate Bill 391



In 2009 legislation was passed that extends climate change goals to statewide transportation policy.

Complete Streets Policies in California

- California Complete Streets Act
- AB 1358 – Effective Jan. 2011, cities & counties, “**shall modify the circulation element** to plan for a **balanced, multimodal transportation network** that meets the **needs of all users** of the streets, roads, and highways for safe and convenient travel in a manner that is suitable to the rural, suburban, or urban context of the general plan.”

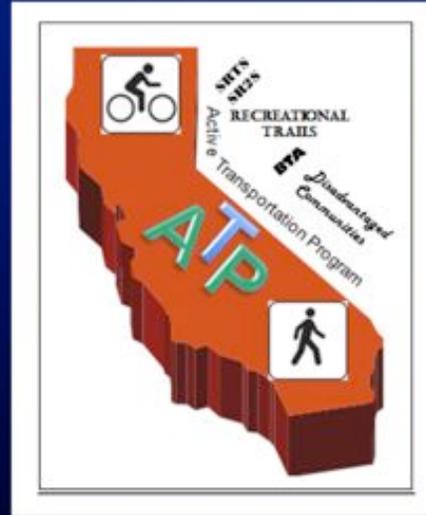


Complete Streets legislation adopted in 2008 supports these efforts to reduce vehicle miles traveled and increase active transportation. The California Complete Streets Act, AB 1358 impacts local general plans by adding the following language to Government Code Section 65302(b)(2)(A): Commencing January 1, 2011, upon any substantial revision of the circulation element, the legislative body shall modify the circulation element to plan for a balanced, multimodal transportation network that meets the needs of all users of the streets, roads, and highways for safe and convenient travel in a manner that is suitable to the rural, suburban, or urban context of the general plan.

The signing of the act required the Governor's Office of Planning and Research (OPR) to amend the General Plan Guidelines to provide local jurisdictions with guidance on how they can comply with the new regulatory statutes. In response, OPR developed the “Update to the General Plan Guidelines: Complete Streets and the Circulation Element.”

Senate Bill 99 Created ATP

- Consolidated existing federal and state transportation programs, including:
 - Transportation Alternatives Program (TAP)
 - Bicycle Transportation Account (BTA)
 - State Safe Routes to School (SR2S)



And most recently SB99, signed into law in 2013, consolidated several existing federal and state transportation programs into the Active Transportation Program.

ATP Purpose and Goals

Provide broad spectrum of projects to benefit many types of active transportation users

Infrastructure Projects

- SRTS
- Bikeways, Walkways
- Trails
- Pedestrian & Bike Traffic Control Devices
- Road Diets
- Bike Parking

Non-Infrastructure Projects

- Education Programs
- Encouragement Programs
- Enforcement Programs
- Plans
 - Active Transportation
 - Bicycle
 - Pedestrian
 - Safe Routes to School



ATP Purpose and Goals

Increased Use of Active Modes of Transportation



- Increase proportion of trips by bicycle/walking
- Increase safety/mobility for non-motorized users
- Advance active transportation efforts of regional agencies to achieve GHG reduction goals (pursuant to SB375)
- Enhance public health through use of programs
- Ensure disadvantaged communities fully share in benefits of program

Questions/Comments?