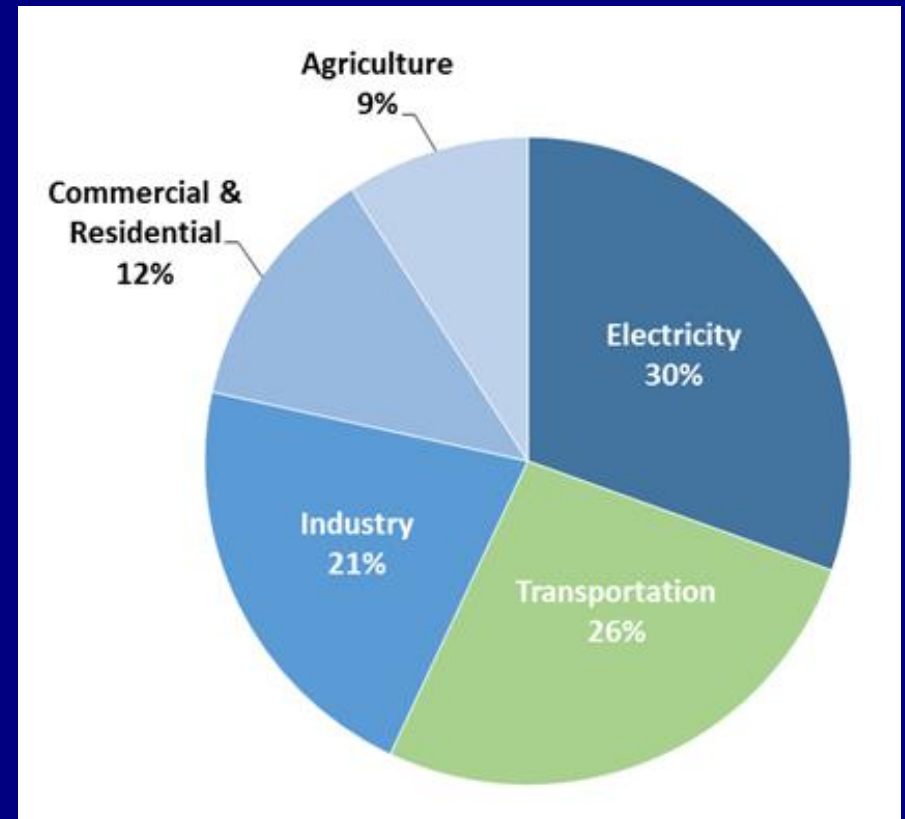




# Low Carbon Transportation

# Total U.S. Greenhouse Gas Emissions by Economic Sector in 2014

Greenhouse gas emissions from transportation account for more than a quarter of total U.S. greenhouse gas emissions, making it the second largest contributor of U.S. greenhouse gas emissions.



Low carbon transportation, such as walking, biking, and public transit are climate change solutions with health benefits for the traveler and the environment, while car trips don't offer the same benefits.





# Car trips have disadvantages

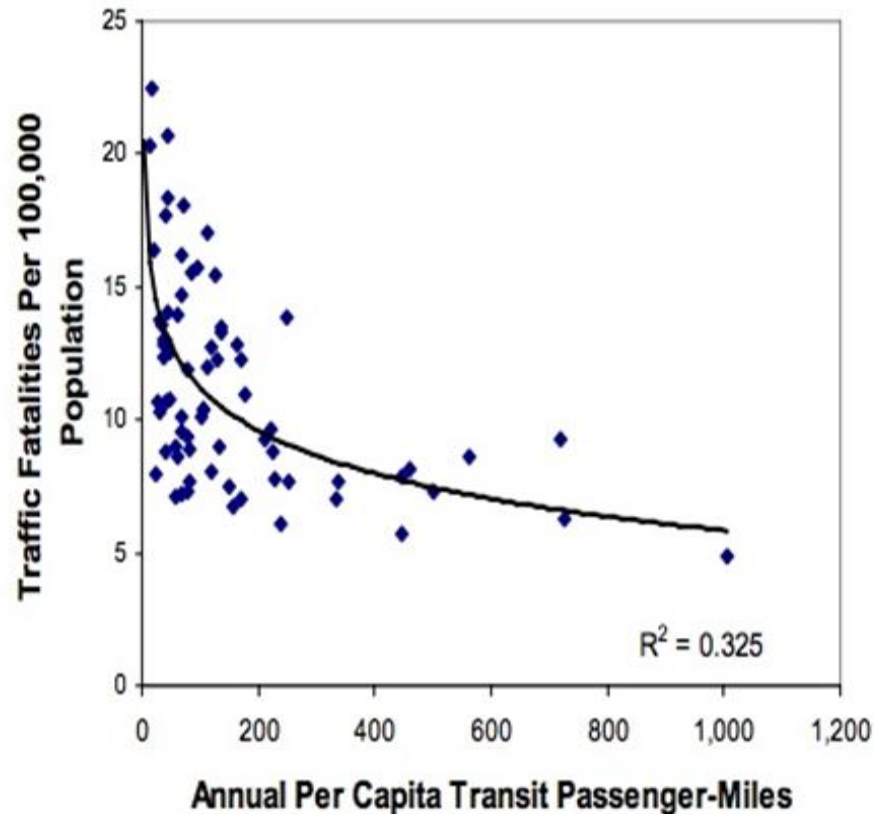
- 40% of trips by car are brief:  $< 1.8$  mile
- Walking or biking could replace them.



# Mass Transit Decreases Vehicle Accident Deaths

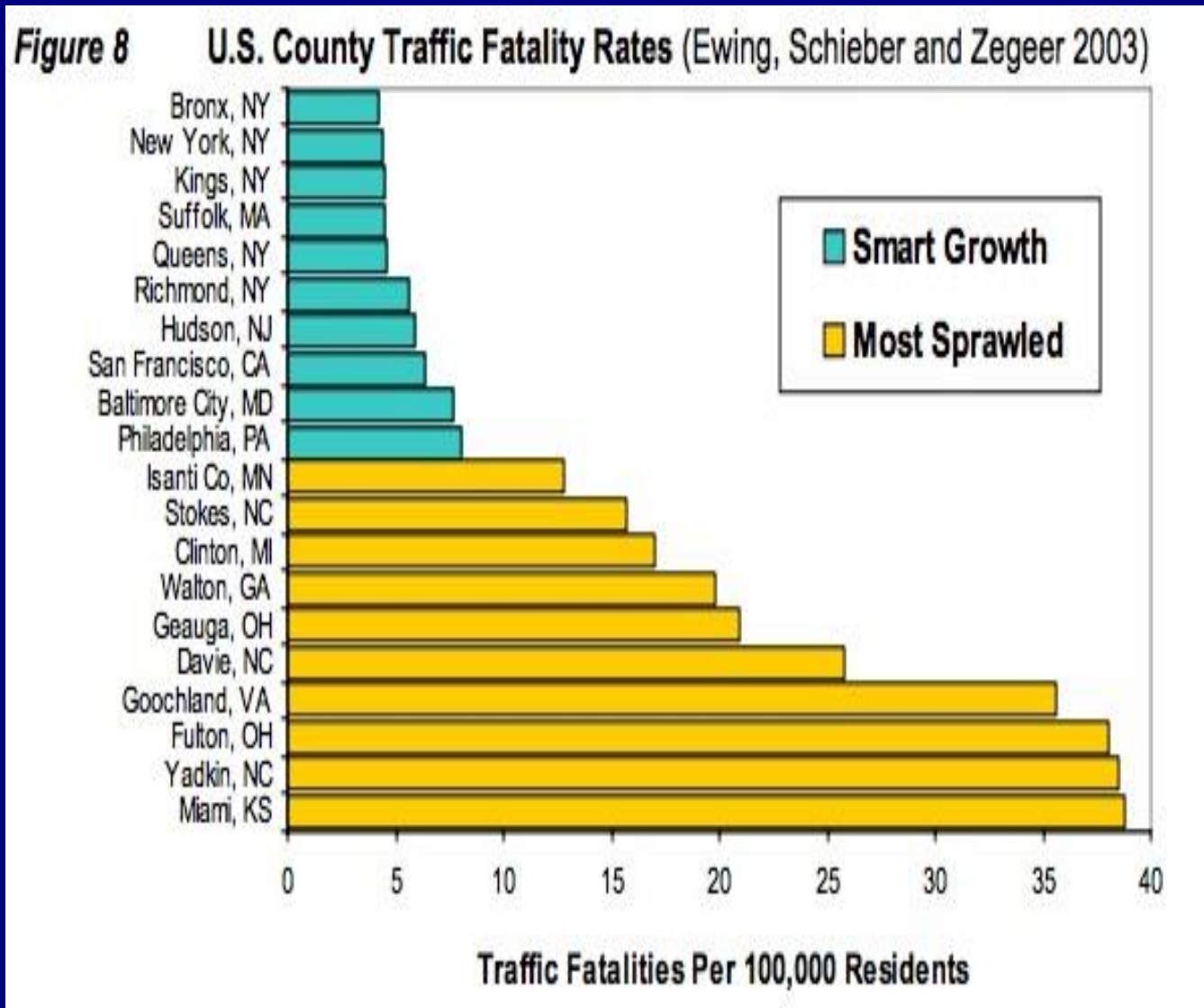
Fewer traffic deaths with more public transit:

**Figure 6** Traffic Fatalities Versus Transit Travel in U.S. Urban Regions (Litman and Fitzroy 2006)



*Per capita traffic deaths tend to decline as public transportation ridership increases. Each dot represents a U.S. urban region.*

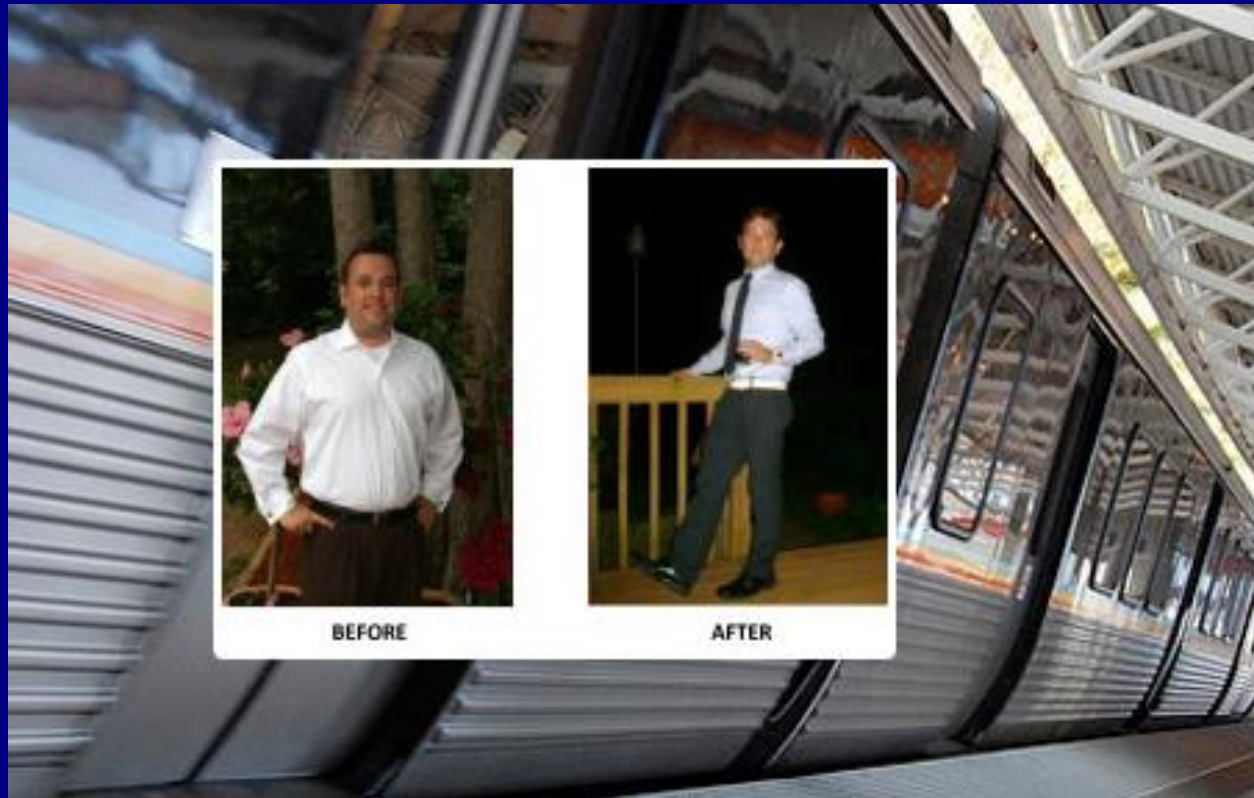
# Fatalities in Smart Growth vs Sprawl



# Physical Inactivity Contributes to Poor Health

- Sprawl and disconnected street networks are associated with increased rates of obesity, diabetes, heart disease (Marshall, 2014).
- Residents of “walkable” metro areas walk more & use more public transit. They have less obesity, lower blood pressure, less diabetes, and 3 years longer life expectancy than people living with sprawl (Ewing, 2014)
- Users of public transit are 45% less likely to be obese or overweight (Zheng, Y. 2008)

# Sam Moody – Atlanta, GA



Gave up his car, took public transportation, increased his exercise, and lost 70 lbs. in less than one year



# Solution: Active Transportation

Active transportation is any self-propelled, human-powered mode of transportation, such as walking or bicycling.



Active transportation – such as walking or cycling--or going with public transportation--could be a solution for short trips.

# Policy Recommendations: Public Transportation



- “Smart growth” means walkable communities with public transportation infrastructure
- Better infrastructure near transit stops make for better walkability.
- Coordination between agencies and levels of government is needed to achieve success.



# Policies Encouraging Active Transport

- Allow for separation of motor-vehicle from non-motorized traffic and physical barriers for better safety
- Establish bicycle parking at workplaces and transit stops
- Provide safe routes for children to walk/bike to school
- Develop connected networks of multi-use bike/walking trails
- Offer education for bicyclists and pedestrians on state and local laws, and safe practices



# Build Walkable Communities

- With safe and accessible roadway crossings through use of small block sizes, pedestrian refuge islands, and cross-walks
- With streetscape amenities such as benches, landscaping, and lighting
- With street-level restaurants and shops along pedestrian and bicycle routes





# Are these societal changes even possible?

Consider this:

- In 1879 Thomas Edison demonstrated the incandescent light bulb; by 1900 all NYC was lit
- In 1990 only 2% of U.S. adults owned a basic cell phone and the vast majority had either never heard of the internet or were very vague on the concept; Now over 90% are both connected to the internet and own mobile devices

*Rapid innovation toward low-carbon transportation solutions is possible!*

# What can you do?



- When possible, walk or bike ride to your destination rather than drive in order to reduce the number of vehicle miles traveled
- If active/public transit options are not available, car-pool when possible
- Learn techniques for how to operate your vehicle more efficiently and reduce greenhouse gas emissions
- Advocate for policies that support the development of walkable communities and safe/accessible public transportation

# Healthier Transportation Solutions



Better for the environment.



Better for people.