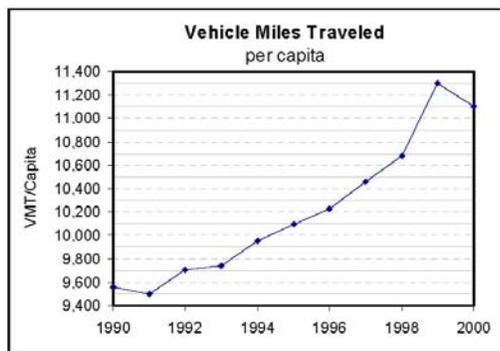


### Introduction

Traffic congestion is a problem in more and more communities. No longer is congestion confined to the typical morning and afternoon commute times on weekdays; it's not unusual to see congestion during lunch times and on Saturdays.

Traffic growth in much of Maine is greatly outpacing population and job growth. For instance, in the greater Portland area during the 1990's, population grew 7%, jobs grew 17%, while total miles traveled in our cars grew 30%. During this same period, overall auto travel in Maine increased 16%, from fewer than 9,600 miles per person to approximately 11,100 miles per person.



**Figure 1: Travel Growth in Maine**  
(Source: Maine DOT)

Why are we spending so much time in our cars? Here are a few contributing factors:

- Maine's population and jobs are spreading out of urban centers and into suburban areas;
- The typical, low density development pattern separates residential areas from business and shopping, so we have to spend more time in our cars shuttling between destinations;
- More and more households have two people working outside the home, so there are more cars per household;
- People are taking more and longer trips for shopping and recreation; and
- Alternatives to the car are scarce, such as safe pedestrian and bicycle routes.

### Unintended Consequences

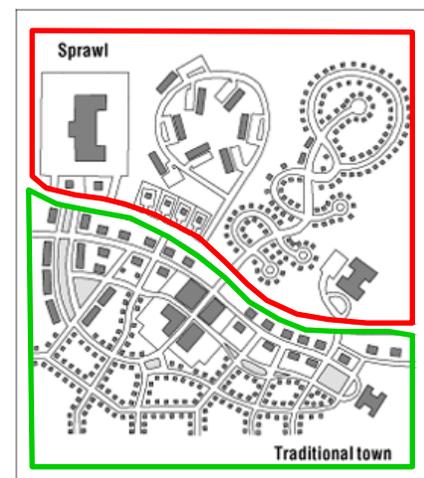
Sprawling development and isolating housing from commercial and retail centers are at the root of this inefficient transportation system. The car has become our only choice for getting around, and there are unintended consequences as a result:

- In twenty years (from 1980 to 2000), motor fuel consumption in Maine increased 55%.
- Paved 'car habitat' generally means polluted runoff into nearby streams, lakes and coastal waters. As pavement increases, aquatic habitat quality generally decreases.
- The more time we spend in our cars, the less time for physical activity. Public health is suffering, as evidenced by wide spread obesity and diabetes.
- Vehicle emissions contribute to unhealthy air. Maine has the highest childhood asthma rate in the U.S.
- More miles traveled in cars means more carbon dioxide (CO<sub>2</sub>) emissions that contribute to global warming.

Communities can take the lead in providing alternative transportation choices to the automobile. Communities participate in transportation decisions every time they review and plan for new development. More and more, they are creating "smart" transportation choices.

### How We Grow Not Just How Much

If low density, segregated land uses (i.e. "sprawl") brought us congestion and other unintended side effects, then the shape of new development will greatly influence the transportation choices available to us in the future.



**Figure 2: Sprawl vs. Traditional Growth Pattern**  
(Source: Duany Plater-Zyberk & Co.)

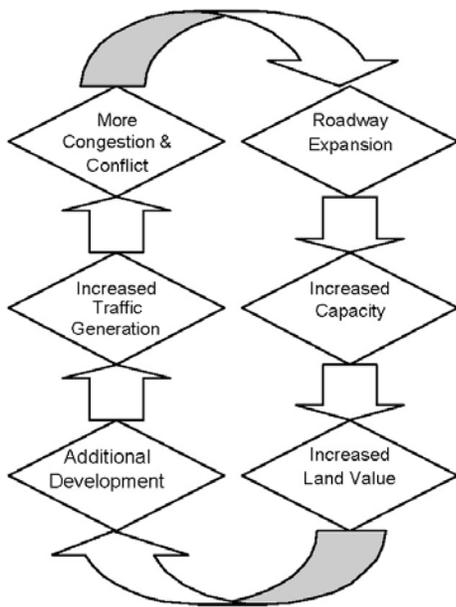
In contrast to sprawl, 'traditional' development allows a mix of different uses, and provides an interconnected street network that provides multiple route alternatives, so short local trips can stay off of the major traffic arteries. 'Traditional' or compact development also typically provides sidewalks, which allows for safe walking and bicycling as alternative ways to get between activities.

### The Land Use - Transportation Cycle

Land use and transportation are strongly linked. Land use decisions that communities make greatly impact transportation and conversely their transportation decisions impact land use. This is the "Land Use-Transportation Cycle"

- Increasing roadway capacity often results in access to more land.
- Land easily accessible to roads is more desirable for development.
- New development often requires further transportation improvements.

This cycle can repeat until congestion clogs roadways to the point where they can no longer be cost-effectively improved. This simple relationship is illustrated in the figure below:



**Figure 3:** Simplified Land Use – Transportation Cycle (Source: FHWA)

### Transportation Alternatives and “Street Experience”

There is growing interest in Maine communities to promote alternatives to the automobile for meeting daily travel needs. For people to *choose* to use alternative transportation over their automobile we need development that makes viable alternatives to driving more attractive, including:

- People-scaled public spaces and streetscapes that are inviting for pedestrians while still providing adequate car access;
- Mixed use development that allows and encourages people to walk between home, work, shopping, and recreation;
- Bicycle routes that are safe and direct, with convenient and secure bicycle parking at destinations;
- Walking routes that are safe, direct, attractive and that connect neighborhoods, workplaces, shops, schools, and other destinations;
- Inviting streetscapes, which feature street furniture and welcome bicyclists and pedestrians while allowing access to adjacent properties;
- Transit service that is reliable, convenient, and reasonably time and price competitive with driving a car.

Communities can promote these alternatives through their comprehensive planning and zoning regulation processes. Establishing goals, determining and implementing action steps, and revising land use and zoning ordinances to include transportation alternatives are “smart choices” communities can make. Planning communities to create a high-quality “street experience” is the strongest incentive for people to *choose* to walk, bike, or take transit, and leave their car at home. We are reaching the tipping point where the costs to our health and to the state and local road budgets call for consideration of transportation alternatives.

### Additional Resources

- [Complete Streets](#)
- [Walkable Communities](#)
- ["Road Diets" - publication](#)
- [Integrated Land Use Planning](#)
- [Sustainable Transportation Ordinances](#)
- [Citizen's Guide to Transportation Planning](#)
- [Benefits of Walkable Communities](#)
- [Tools for Sustainable Transportation](#)
- [Traffic Calming Considerations](#)
- [Roadway Access Management](#)
- [The New Transit Town: Best Practices in Transit Oriented Development](#), Hank Dittmar & Gloria Ohland
- [Surface Water Quality and Impervious Surface Quantity: A Preliminary Study](#), James Hurd and Daniel Civco