



City of Nashua Transportation Toolkit: The Land Use and Transportation Connection

March 2008

#3062-184



City of Nashua

Overview

This presentation will discuss:

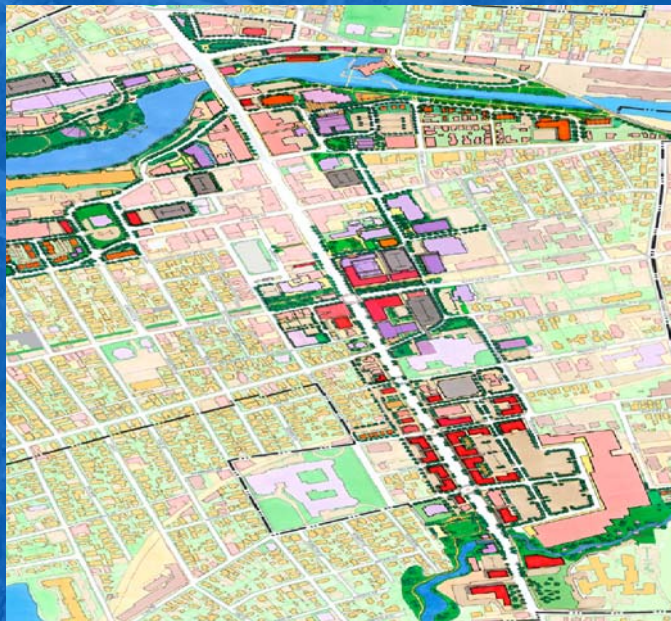
- The connection between growing population, transportation infrastructure, development and land use
- The regulatory controls Nashua can implement to preserve and enhance its character

Population Growth

Growing population means increased demands on transportation infrastructure.

- More roads to service more housing
- More costs to the city to maintain roads and public services
- More trips

Land Use and Transportation in Nashua



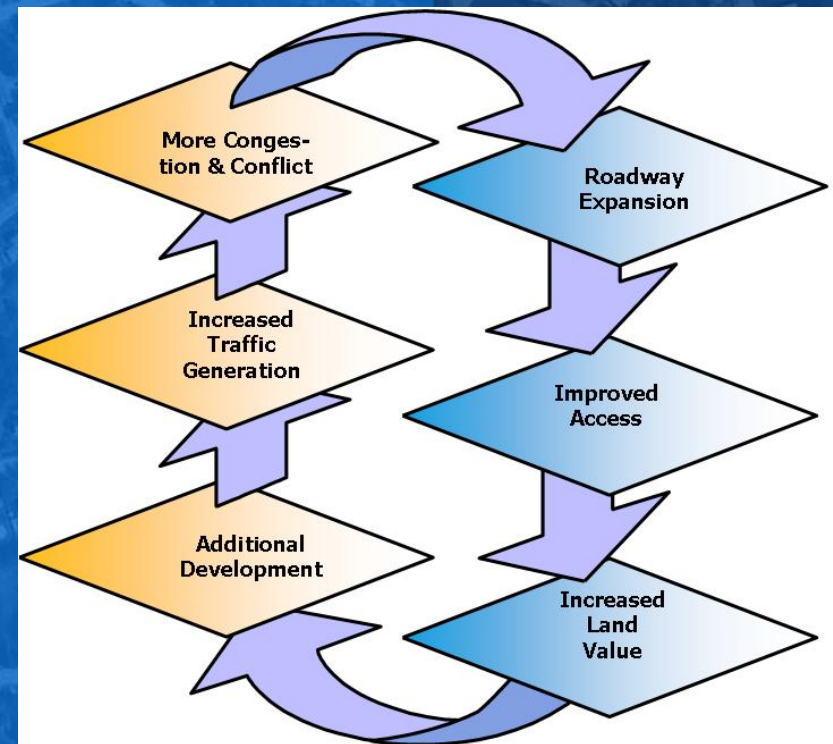
Source: Nashua Downtown Master Plan

- Nashua has a thriving downtown Main Street surrounded by residential neighborhoods.
- Southwest Nashua is more suburban.

Transportation Infrastructure and Land Use

If you build it, they will come.

- New roads and road widening only improve traffic conditions in the short term.
- More congestion occurs as more people use the improved road.
- Improved roads attract new development which also leads to increased congestion and encourages sprawl.



Source: Rockingham Regional Planning Commission Route 16 Land Use Transportation Report.

Regulatory Strategies

To avoid cultivating sprawl and improve the quality of existing development

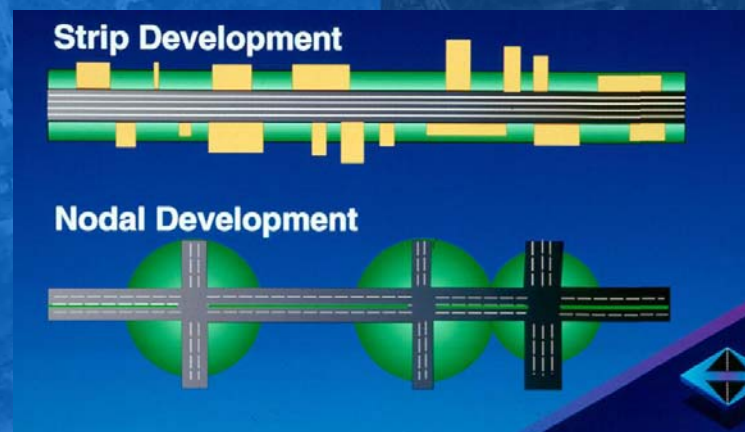
- Consolidate new development
 - Nodal Development
 - Infill and Revitalization
- Encourage mixed-use development
 - Village Plan Alternative
 - Transit Oriented Development
- Limit access to regional roadways
 - Access Management
 - Multi-modal Access
- Maintain a sense of community
 - Context Sensitive Solutions



Nodal Development

Concentrates residential, commercial and service opportunities around key intersections

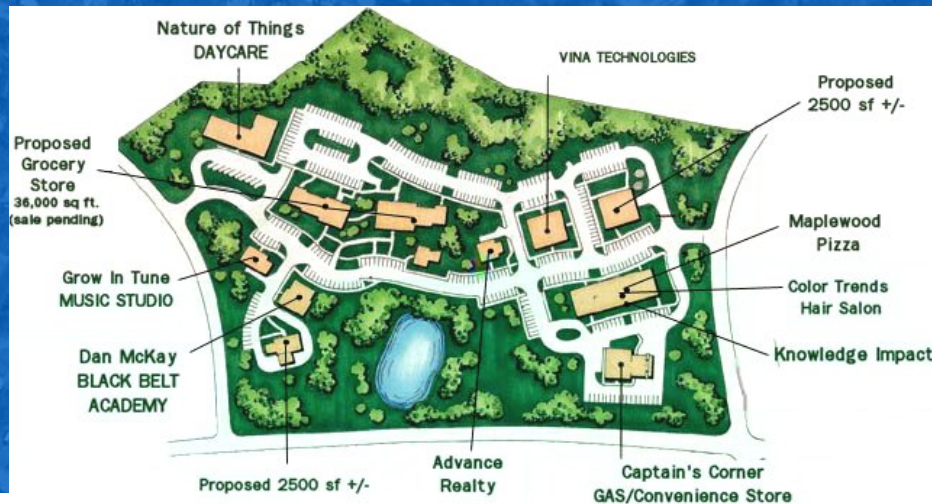
- Compact and walkable
- Pedestrian and cyclist friendly
- Reduces automobile trips and car dependency
- Creates a sense of place and enhances community character
- Limits generic sprawl



Source: "Courtesy of Dan Burden, Glattig Jackson Kercher Anglin, Inc., and Walkable Communities."

Nodal Development in Nashua: Maplewood

Located in the southwestern quadrant of Nashua, Maplewood consists of senior housing, single family homes, preserved open space and a village district.



The village district, known as the Commerce Center of Maplewood, is located on Merit Parkway. The center provides convenient, nearby services that the community's residents can walk and cycle to.

Source: www.korsakrealty.com

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Nodal Development in Nashua: Maplewood



Ample footpaths and well-defined crosswalks connect the residential areas to the Commerce Center.



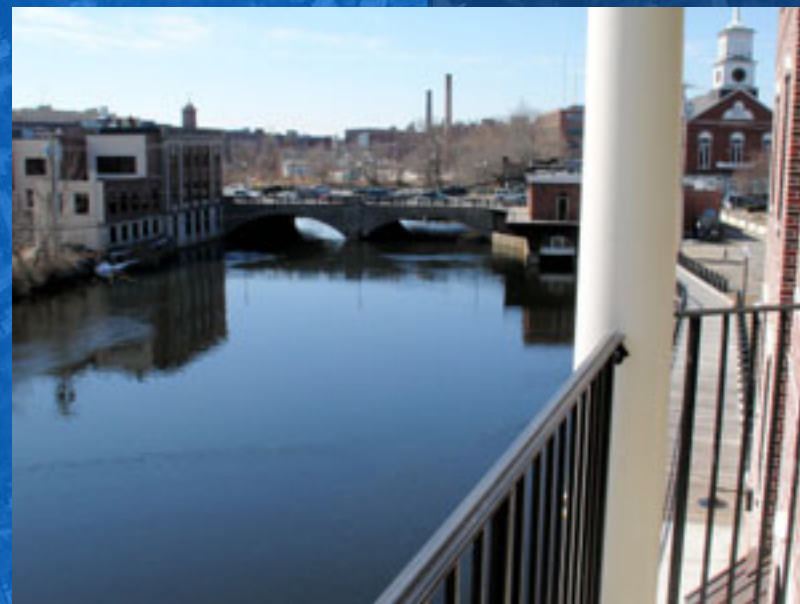
The Commerce Center is located around a scenic pond.

Source: NRPC



Infill and Revitalization

- Infill develops parcels of vacant land within a built-up area.
- Revitalization repairs and modifies sites that have become dilapidated or obsolete to meet current needs.
- These methods typically do not burden existing infrastructures or require new improvements.
- Both can enhance the character of an area by making use of unsightly and wasted space.



The Jackson Fall Condominiums located in downtown Nashua were built on unused land along the Nashua River.

Source: jacksonfallscondominiums.com



Village Plan Alternative (VPA)

- Creates compact, mixed use neighborhoods that preserve the working landscape and protect environmental resources.
- Encourages design on a human scale, provides pedestrian access, delineates public and private spaces and allows connections between residential and retail areas.
- Allows new development to occur near the population center and protects open space.



Source: *Village Design Model Ordinance*, Rockingham Planning Commission

Village Plan Alternative (VPA)

Provides new planning tools for compact development suitable for the lower density areas of New Hampshire

- Conventional zoning isolates residential, commercial, recreational and business land uses.
- Negative economic, environmental and social consequences of conventional zoning include:
 - Car dependency
 - An extensive transportation network
 - Air pollution
 - Social isolation

Transit Oriented Development (TOD)

Creates mixed use areas that are centered around public transit

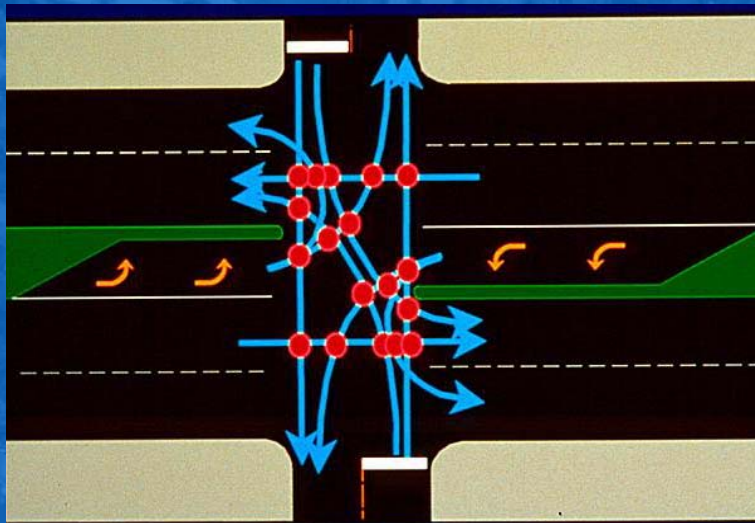
- Public transportation station is a main feature of the town center.
- Citizens are encouraged to live, work and play near transit and depend less on their cars.
- Pedestrians are the highest priority and all forms of non-motorized transportation, such as bicyclists and pedestrians, are considered.

Transit Oriented Development (TOD)

A TOD means that residents:

- Are more likely to drive less and pollute less
- Have a high quality of life due to nearby employment and recreational opportunities, less traffic congestion and greater mobility due to increased transportation options
- Can have better air quality
- Can have higher property values

Access Management



These two access points create 18 possible roadway accidents.

Source: "Courtesy of Dan Burden, Glatting Jackson Kercher Anglin, Inc., and Walkable Communities."

Coordinates the location, number, and spacing of access points to maximize the traffic capacity of a roadway

- Strip development along major travel corridors results in an abundance of access points.
- Frequent access points increase the potential conflict points.

Access Management Techniques

- Width of access points
- Alignment of access points

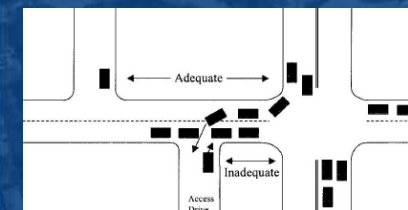
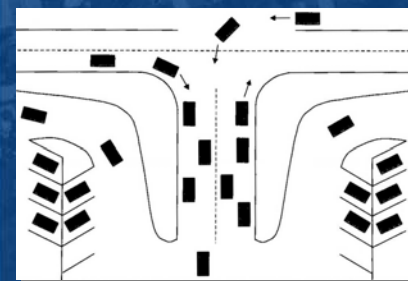
Directly across from other access points and at a 90 degree to the road

- Throat length

Limits access to vehicles within parking lot to access point

- Corner clearance

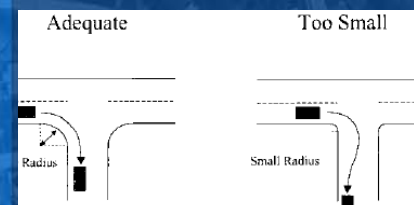
Locate access points at a distance, prescribed by speed limit of the road, from intersections to prevent interference at intersection.



Access Management Techniques

- **Turning radius**

Affects the speed of turning traffic. A large radius allows fast turns; a small radius requires braking to turn.

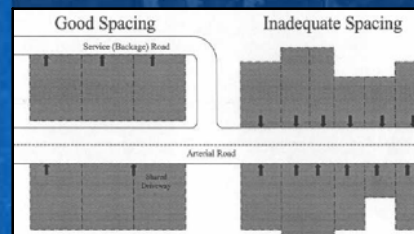


- **Spacing of access points**

Limits location of access points

- **Reduce the number of access points**

One access point shared between multiple buildings



- **Cross connections**

Provides access between adjacent sites

Access Management

NH 101A Corridor Master Plan and Improvements Program

- Parallel Cross Easement Connections
- Provide vehicular and pedestrian access between sites without the need to access 101A
- Between Cotton Road and Townsend West

Multi-modal Amenities

If you build it, they will come.



Source: "Courtesy of Dan Burden, Glatting Jackson Kercher Anglin, Inc., and Walkable Communities."

Provides for alternative means of mobility

- Bike lanes, traffic lights, and racks
- Cross walks and sidewalks
- Public transit

Context Sensitive Solutions (CSS)

- CSS is a process in which community stakeholders:
 - Define problems
 - Create vision statements
 - Provide input into solutions
- The New Hampshire Department of Transportation's official definition of CSS:

"a collaborative interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility."

Context Sensitive Solutions

Place Making

- Often the first step in the CSS planning process
- Used to help a community to define the character, problems and opportunities of a particular location
- Communities can identify ideas for projects and discover new opportunities for collaboration and problem-solving



NRHC Staff

NRHC Staff

Implementation Strategies

- Master Plan
- Integrated Land Use and Transportation Planning
- Land Use Regulation
- Streamlined Review and Permitting
- Consolidation of Development
- Incentives



The Connection Between Land Use and Transportation

These strategies can be used in Nashua to:

- Balance growth with quality of life
- Prevent congestion
- Limit pollution and sprawl
- Preserve open space

