INTRODUCING SMART GROWTH TO TEXAS: INSTRUCTOR’S GUIDEBOOK

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Smart growth is planned growth that integrates land use and transportation to create urban development that conserves resources and improves quality of life while providing adequate mobility. This presenter’s guide is part of workshop materials that assist TxDOT in disseminating information on smart growth principles, practices and applications to state, regional, and local planners, engineers, transportation professionals, and other interested parties.

A workshop presentation on smart growth was developed in PowerPoint® form and is included with this guidebook on CD. A hardcopy is available as a participant’s workbook. To reinforce the principles of smart growth, and to introduce the smart growth design process, the workshop includes a hands-on case study to teach the practical application of smart growth in a simulated situation. Included in the workshop materials are workbooks for the instructor and workshop participants.

This guidebook is to assist a presenter in preparing and delivering the workshop instruction.
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Product 4238-P2
Project Number 0-4238
Research Project Title: Smart Growth Texas Style

Sponsored by the
Texas Department of Transportation
In Cooperation with the
U.S. Department of Transportation
Federal Highway Administration

October 2002

TEXAS TRANSPORTATION INSTITUTE
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DISCLAIMER

The contents of this report reflect the views of the authors, who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the U.S. Department of Transportation, Federal Highway Administration, or the Texas Department of Transportation. This report does not constitute a standard, specification, or regulation.
INTRODUCTION

This guidebook is intended to provide the instructor with the information necessary to conduct a workshop on smart growth principles and practices. It is assumed that the presenter has some knowledge of smart growth. The entire presentation is available as a PowerPoint® slide presentation. All slides are on the CD that accompanies this guidebook. A Primer is provided for background along with the hardcopy slides with notes.

PRESENTER INFORMATION

The material provided in this guidebook provides materials to support a workshop or seminar to introduce participants to smart growth.

Workshop Objectives

The objectives of the workshop as presented herein are:

• Introduce participants to smart growth
• Provide examples of smart growth concepts, policies, and projects
• Enable participants to work with others pursuing smart growth within their communities or agencies

Duration

This workshop is intended to utilize either approximately ½ day or a full day:

• ½ day without the case study and discussion (e.g., 8:00am – 12:30pm)
• full day with case study and discussion (e.g., 8:00am – 4:30pm)

Durations may be adjusted based on areas of emphasis desired by sponsor or presenter.

Materials Provided

Materials supplied in this guidebook include:

• PowerPoint® presentation (on CD-ROM disk inserted in binder)
• Hard copy of slides with explanatory notes for presenter (presenter is assumed to have a working knowledge of smart growth)
• Primer describing smart growth (workshop participants also have this in their workbooks)
• Case study with solutions (participants have case study and extra maps, but not solutions; presenters should make copies of solutions to hand out to participants)

A case study in smart growth is available for participants to practice newly attained smart growth skills. This case study should take a total of three hours (case study description, group effort in groups of three to four participants, discussion of solutions). Colored pencils would be useful for this exercise. The instructor is provided with solution maps at the end of the guidebook to copy and hand out at the end of the exercise.

Presenters are encouraged to add material that may meet the desires of workshop sponsors. However, any changes should also be incorporated into the participant’s workbook.
Suggested Time Allocations

The following are suggested allocations of time to be spent on each section. Presenters should feel free to adjust these as needed based on the level of familiarity of participants with smart growth and specific emphasis desired by workshop sponsors. Time for breaks and lunch are not included; it is suggested that breaks be provided approximately at two-hour intervals.

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Total duration excluding breaks and lunch 255 minutes without case study
405 minutes with case study

Contents of Participant Workbooks

Each participant should be provided with a participant’s workbook, which has been supplied to TxDOT. The workbook contains:

- Hard copies of PowerPoint® slides (without presenter notes)
- Primer
- Case study problem and maps on which to sketch

Presenters should add any additional material to be covered.

Sponsor Workshop Evaluation Form

The sponsor may request that a workshop evaluation form be completed by the participants, presenter, or both. The presenter should obtain and provide sufficient copies for completion by each participant and request that they be completed and handed in before departing the workshop site. Forms should be handed out during the last section of the workshop. Completed forms should be submitted per sponsor request.
INTRODUCTIONS

• Instructors
• Participants
  – Organization/division
  – Location
  – Type of work you do
  – Exposure to smart growth

Introduce yourself(s) and your background relative to smart growth.

Have seminar participants introduce themselves, their employment affiliation, work role/responsibilities, and prior smart growth exposure or experience.
Title slide

Provide description of how you will run the seminar. Discuss:
• schedule, agenda,
• materials participants should have received at check-in or on their desks,
• break arrangements,
• locations of restrooms,
• meal arrangements,
• other items as applicable.
PURPOSE OF SEMINAR

• Introduce participants to smart growth
  – What it is
  – How local agencies may use it
  – Transportation in smart growth
    • Roles
    • Potential benefits and disadvantages
• Explain how TxDOT and other agencies can best use smart growth

Self explanatory
Why Smart Growth?

- Congestion
- Contributing sprawl
- Cost of “building out of congestion”
- Concerns about quality of life

• Congestion – increasing in urban areas due to continuing increase in vehicle miles of travel (VMT) per capita as well as continued growth in population and jobs
• Contributing sprawl – urban areas continue to spread out as people seek newly developing areas and lower land costs; development is skipping over undeveloped land to reach available or desired locations
• Cost of “building out of congestion” – transportation agencies are finding that they do not have the financial resources nor is there sufficient right-of-way to build enough transportation facility supply to meet continually growing needs
• Concerns about quality of life – there is increasing concern about how quality of life and health is being affected by increasing congestion, traffic intruding into residential neighborhoods, high traffic speeds, loss of open space, dependence on driving, more time spent in traffic and less with family, loss of walking opportunities, air pollution, etc.
Seminar Origins

- Texas cities pursuing smart growth (SG)
  - Austin
  - Denton
  - Houston
  - Dallas
- SG involves land use-transportation relationships
- SG presents opportunities to transportation agencies

Origins – TxDOT saw emergence of smart growth in some communities as well as states across the country and wanted to make sure that TxDOT and others could get a basic understanding of what smart growth is, how it works, and how it might be supported and used by agencies with transportation responsibilities.

Smart growth involves land use-transportation relationships and, therefore, involves agencies at different levels working together. This seminar is intended to facilitate working together in an informed and constructive manner.
Seminar Origins (cont.)

- Help transportation professionals understand SG
  - Understand basics of SG
  - Better understand land use-transportation relationships
  - Work better with local agencies to meet objectives
  - How SG may affect transportation-related decisions
  - How SG can benefit both you and other agencies

Self explanatory
SMART GROWTH

• Goals
  – Overall goals may be set by state, e.g:
    • Maryland
    • Oregon
  – Goals may be:
    • Statewide
    • Regional and/or
    • Local

Maryland and Oregon are two states with aggressive statewide smart growth programs. Smart growth goals may be set by the state if applied statewide, or by regional and local agencies if applied locally.

Generally any state-led smart growth initiative must be accompanied by local programs to accomplish smart growth since local agencies rather than the state have jurisdiction over land use control.

Map is of Portland, Oregon’s, Urban Growth Boundary (UGB).
The following section describes smart growth and its characteristics.
SMART GROWTH

• Typical goals
  – Compact development
  – Infill, redevelopment
  – Connectivity
  – Travel choices
  – Walkability
  – Reduction of sprawl
  – Job-housing balance
  – Open space preservation

Typical smart growth goals:
• Compact development – siting developments, subdivisions, or communities in close proximity to each other, to make them more walkable or within convenient biking or transit distance
• Infill, redevelopment – to make best use of existing infrastructure and to fill in undeveloped areas before extending even farther out on the periphery
• Connectivity – connect neighborhood streets, pedways, bikeways; interconnect neighborhoods; provide intermodal connectivity, etc.
• Travel choices – provide modal choices as well as alternative routes
• Walkability – make developments and transportation facilities pedestrian friendly and attractive for walking
• Reduction of sprawl – reduce absorption of open space, forest, agricultural lands and keep urban areas compact (as mentioned above)
• Job-housing balance – balance work force and employment locations both regionally and sub-regionally so commute distances are kept low; requires not just a count of work force and jobs, but also matching the types of housing with the compensation level of nearby jobs
• Open space preservation – see “reduction of sprawl” above

Photo: Ghiardelli Square, San Francisco
Smart Growth

• Typical desired characteristics
  – Priority on redevelopment and infill
  – Compact development
  – Mixed use
  – Higher densities
  – Job-housing balance
  – Walkable

• Compact development – smaller lot sizes, closer proximity to walkways, less “leap-frogging” over undeveloped land
• Priority on infill and redevelopment – self-explanatory after similar statement on previous slide
• Mixed use – locate complementary uses within same development or in close proximity to each other
• Higher densities – self explanatory
• Job-housing balance – same as on previous slide
• Walkable – make environment attractive and convenient to walk in

Photo: Mockingbird Station, Dallas.
Smart Growth

- Typical desired characteristics (cont.)
  - Networked streets
  - Efficient transit
  - Economic vitality
  - Attractive aesthetics
  - Environmental sensitivity
  - Efficient use of resources
  - Sustainability over time

- Networked streets – streets all linked together in a grid or similar network to provide connectivity and reduce necessary travel distances
- Efficient transit – convenient, direct connections to frequent destinations
- Economic vitality – strong economics make for healthy communities
- Attractive aesthetics – self explanatory
- Environmental sensitivity – self explanatory
- Efficient use of resources – existing investments, financial resources, land
- Sustainability over time – continuing viability to make a community healthy
Smart Growth

• Specific goals and objectives vary by community
• No “one size fits all”

Each community has its own combination of objectives. Smart growth supports local objectives and uses its concepts to support and achieve the local objectives.
Smart Growth

• Sample goals and objectives
  – Austin
    • Reduce sprawl
    • Redevelop urban core
    • Relieve traffic congestion
    • Improve air and water quality
    • Make hike and bike transportation viable
    • Create transit-oriented development
    • Create better housing options

Sample goals and objectives of Austin, Texas – self explanatory
Photo: infill housing development in Priority Development Zone, Austin, Texas.
Smart Growth

• Sample goals and objectives – Oregon
  • Manage (rapid) growth
  • Plan comprehensively
  • Job-housing balance
  • Land for economic diversification
  • Preserve farmland, forests, open space
  • Urban growth boundaries based on projected growth
  • Multimodal transportation meeting needs, supporting land use plans, efficiently using resources

Sample goals and objectives of the State of Oregon – most self explanatory; smart growth objectives

• Land for economic diversification – plan and reserve land sites on which to accomplish economic diversification objectives, such as new industry

• Urban growth boundaries (UGBs) based on projected growth – Oregon legislation requires that all municipalities establish boundary limits beyond which urban development may not expand; boundaries can be extended when existing land within the UGBs approaches “full development”
Smart growth concepts and principles are applicable at all levels from state to site. Photo: Eastside Village in Plano, Texas
Smart Growth

• Transportation examples
  – Systems, networks
  – Travel modes
  – Interaction with land uses
  – Encouragement of non-driving modes
  – Facility functions and design
  – Access management
  – Environmental compatibility
  – Contribution to quality of life

Below is a list of transportation components to which smart growth concepts can be applied. All can support smart growth. Examples:

• Systems, networks – connectivity, travel choices, reducing VMT and travel times
• Travel modes – personal vehicles plus making other modes convenient such as walk, bike, transit, and intermodal transfers, too
• Interaction between land uses – smart growth encourages and provides for complementary, mutually supportive adjacent land uses, such as community shopping areas mixed in with residential concentrations
• Encouragement of non-driving modes – to reduce dependence on driving and VMT
• Facility functions and design – smart growth includes planning and designing transportation and other facilities to meet smart growth functions, e.g., encourage walking, make transit use convenient and attractive
• Access management – locate and design access to preserve capacity and minimize vehicle-pedestrian conflicts
• Environmental compatibility – be proactive in making transportation systems compatible and supportive of the natural environment
• Contribution to quality of life – use transportation investments and programs to improve quality of life, e.g., comfort, attractiveness, human interaction, etc.

Photo: Dallas DART light rail at station
LAND USE–TRANSPORTATION RELATIONSHIPS

The next section describes some basic land use-transportation relationships that are important in smart growth.
Since 1980, U.S. population has grown at an average rate of about 1%, but VMT has grown at a rate of over 3%. More of us are driving on more trips, driving alone more often, and driving further, at least partly due to sprawl and inefficient development patterns (e.g., cul-de-sac streets requiring circuitous travel, homogeneous zoning, no sidewalks in many areas) and insufficient viable travel alternatives.
Land Use–Transportation Relationships

- Roadway system layout
  - Networked neighborhoods can reduce internal VMT by up to 50%

Here is an example: research has shown that in subdivisions like the ones on the left driving distances are about double those of the well-connected type on the right.
Land Use–Transportation Relationships

In this development there are residential units above ground-floor retail, restaurant and service businesses, and a garage in the middle where it is less visible but still convenient to the users it serves. This design is compact, mixed use, and pedestrian friendly with street landscaping. It should reduce vehicle trips and travel distances.

Photo: inner city redevelopment, Houston, Texas
Land Use–Transportation Relationships

- Compact development
  - Reduced driving distance
  - Facilitates walking

Compact residential development with attractive sidewalks featured. This looks pedestrian friendly and encourages walking, as well as reduces travel distances.
Access management can be used to control where access is permitted. Where the agency with jurisdiction has acquired access rights along a road, it can use its permitting authority to permit access only where it is consistent with plans. Oregon’s DOT acquires access rights along all new and improved highways and has this power and policy on many of its roads. It uses access management to encourage developers to locate developments in areas where the local jurisdiction plans for such development.
Since almost the beginning of humans on earth, accessibility has played an important role in where development occurs. In the early years of colonization, water was the primary access way to what is now the USA. Settlements started along the east coast. Much later, urban suburbs were opened up by commuter and interurban railroads such as the Pacific Electric lines (photo on left) that opened up so much of the Los Angeles area. Roads are now primary for influencing development location.
Land Use–Transportation Relationships

• Design standards affect quality of people environment

Transportation design standards influence how well land use/development relate to the transportation facilities and services and the quality of life perceived to exist in that development. Transportation rights-of-way can make an area attractive to people and encourage ridership, or can just be transportation facilities that feel uncomfortable and unfriendly. Compare the two photos of developments in Gresham, Oregon, above (left – Division Street, right – Main Street).
Transportation policies influence the ease (or difficulty) with which smart growth can be pursued. Policies affect the factors listed.

Photo: street with function modified to make it more pedestrian friendly in Eastside Village, Plano, Texas.
Transportation Policies

• Can affect (cont.)
  – Design standards
  – Bike/ped provisions
  – Access management
  – Transit prioritization and transit-oriented development (TOD)

…continued
The following slides address commonly held misunderstandings about smart growth.
What smart growth is not:

• “No growth” – smart growth assumes that there is growth
• No new roads – smart growth supports new and improved roads...that follow smart growth principles and support other aspects of smart growth
• Against new highways – new highways can be important to smart growth; for example, to help direct growth to designated growth areas and away from preservation areas, to provide routes to carry economic trade that supports a viable community, and to carry major through traffic so it is not forced into residential areas where traffic is not wanted
• Neo-traditional neighborhoods – neo-traditional neighborhoods are examples of smart growth, but smart growth does not have to take the form of only such design concepts
• Only slow, skinny streets – smart growth embraces the need for streets of varying types, including arterials that have four or six traffic lanes and carry high traffic volumes. Smart growth does call for such streets to be more compatible and supportive of abutting development (both should be planned to be mutually supportive and compatible)
• Designed to discourage traffic everywhere – smart growth recognizes that traffic movement is necessary for the social and economic success in an area, and it seeks positive ways of channeling traffic
• Only high-density development – smart growth acknowledges that people have different lifestyles, and choices of housing types are part of the smart growth concept

• Photo: street improvements that include better pedestrian facilities in Eastside Village in Plano, Texas
WHY SOME STATES AND LOCAL AGENCIES ARE PURSUING SMART GROWTH

Self explanatory
Why Others Are Pursuing Smart Growth

- Statewide goals
- Economic development
- Preservation of natural environment
- Quality of life
- Can’t build way out of negatives
- Sustainability concerns
- Land limitations

Most self explanatory
- Can’t build way out of negatives – cannot build enough road capacity to solve congestion; cannot afford to keep building new utility or school infrastructure when underutilized existing infrastructure is available
- Sustainability concerns – ability to maintain viable inner city and other areas when new investment is concentrated on new peripheral areas
- Land limitations – some areas are losing valuable and limited lands currently devoted to agriculture, forests, and other open space or valuable habitats and wetlands
Reasons for Pursuing Smart Growth
State Examples

• Maryland
  – Support growth in planned areas
  – Accommodate growth without sprawl
  – Relieve traffic congestion
  – Improve air, water, environmental quality
  – Preserve farm, forest, and open land

Example – self explanatory
Reasons for Pursuing Smart Growth

State Examples

• California
  – Concern about impacts of rapid population growth
  – Desire to reduce traffic congestion
  – Address environmental issues

Example – self explanatory

Photo: California highway from California Smart Growth Initiative website
Reasons for Pursuing Smart Growth

State Examples

• Oregon
  – Preserve farmland, forests, open space
  – Diversify economy; reserve needed land
  – Limit sprawl
  – Plan comprehensively
  – Create safe, economic transportation system

Example – most self explanatory
• Plan comprehensively – state legislation requires comprehensive planning so the state’s 19 goals can be met in a planned, orderly fashion
Reasons for Pursuing Smart Growth
State Examples

- Illinois
  - Creation, expansion, and restoration of livable communities
  - “Balanced growth”
  - Economic development
  - Preservation of open space
  - Quality of life
  - Corridor improvements

Example – mostly self explanatory
- “Balanced growth” – Illinois terminology for smart growth, but communicating the need to grow economically, diversely, as well as in general accordance with smart growth concepts

- Photo: Illinois agriculture
Reasons for Pursuing Smart Growth
State Examples

• Delaware
  – Economic development and growth
  – Travel opportunities and choices
  – Quality of life
  – Preservation of open space
  – Cost-effectiveness
  – Planning and coordination

Example – self explanatory
• Travel opportunities and choices – flexibility in route and mode choice
Reasons for Pursuing Smart Growth

City Example

- Portland Region
  - Create safe, stable neighborhoods
  - Limit sprawl
  - Reduce VMT per capita
  - Provide travel choices
  - Reduce dependence on motor vehicles
  - Promote vibrant culture and economy
  - Protect habitats for wildlife and people

Example – self explanatory

From these examples it is possible to see both some commonality as well as differences in why this cross-section of states and local governments have chosen to pursue smart growth.

Photo: Eastside Max light rail station at Gresham Station in Gresham, Oregon
EXAMPLES OF SMART GROWTH

The following slides offer examples of different smart growth policies and programs now in place or proposed.
Examples
Maryland Statewide Policies

• Policies
  – State smart growth act
  – Priority funding areas
  – Rural legacy program
  – Brownfield laws
  – “Live near work” program

• Goals
  – Save natural resources
  – Support existing communities
  – Reduce infrastructure costs

Policies
• State smart growth act – state legislation leads the way for smart growth in Maryland, providing programs and policies listed below
• Priority funding areas – limits state infrastructure and related investments to areas specifically designated for growth (Graphic is of Statewide Priority Funding and Rural Legacy Areas)
• Rural legacy program – preserves designated rural areas
• Brownfield laws – Maryland’s 1997 law limits liability and offers tax relief, grants, and low interest loans to encourage redevelopment of brownfields properties. Several cities within the state offer their own brownfields redevelopment incentives.
• “Live near work” program – is a partnership between the Maryland Department of Housing and Community Development and local government and businesses. The program offers $3,000 grants to employees who purchase homes within 5 miles of their places of employment.

Goals:
• Support existing communities – through state funding and investment decisions, support the goals and programs of existing Maryland municipalities

Others self explanatory
Examples
State of Oregon

• Initiated over concerns
  – Rapid growth
  – Quality of life
  – Consumption of farmland, forests, and other open space
  – Sustainability

Self explanatory
Examples
State of Oregon (cont.)

- Statewide approach
- Five departments work together
  - Transportation
  - Land conservation and development
  - Environmental quality
  - Economic development
  - Housing and community services
- Comprehensive planning basis

• Statewide approach – Oregon took early action at the state level through legislation that established a multi-agency program
• Five departments work together led by the top two in the list: DOT and the DLCD (Department of Land Conservation and Development) are responsible for most programs but coordinate with the other three
• Comprehensive planning basis – most of what Oregon does in smart growth is built around comprehensive planning under the concept that smart planning will result in smart growth
Examples
State of Oregon (cont.)

• Land use controls through comprehensive plan requirements
  – All municipalities
  – All counties
  – All regions
  – All plans simultaneous in each region

• Comprehensive plans are required of all municipalities (regardless of population or size), counties, designated regions (MPO - Metropolitan Planning Organization)
• Comprehensive plans in each county or region must be updated simultaneously to ensure compatibility and coordination
Examples
State of Oregon (cont.)

• **Comprehensive plans (approved by state)**
  – Must meet 19 state goals
  – Land use
  – Transportation
  – Many other factors

• **Urban growth boundaries (UGBs)**

• All comprehensive plans must be approved by the state. They are to meet 19 goals established by the state.
• Plans must be truly comprehensive, including transportation and land use, but also many more components.
• Each municipality must designate an urban growth boundary (UGB) within which development will be permitted and public infrastructure investments can be made.
• The UGB is based on projected growth and corresponding land needs; UGBs can be adjusted over time.
Examples
State of Oregon (cont.)

• State Transportation Rule
  – Transportation system plan
    • Very comprehensive
    • Multimodal
    • Requires implementation plan
      – Policies
      – Regulations, e.g.,
        • Subdivision, zoning, access management
      – Funding plan

Oregon has a state Transportation Rule enacted by the Transportation Commission. It requires a Transportation System Plan (TSP) within every comprehensive plan with the listed components. The state also has a statewide TSP called the Oregon Transportation Plan (OTP).
Examples
State of Oregon (cont.)

- Transportation system plan (cont.)
  - State must approve
  - Adoption constitutes land use action

The State must approve the TSP. Adoption is a land use action and is treated as part of the local land use code which means that it is required rather than advisory.

Oregon’s smart growth program is backed by legal requirements to ensure it is followed.
Examples
State of Oregon (cont.)

– Must:
  • Increase densities near
    – Transit stations
    – Major employment areas
    – Major retail areas
  • Designate lands to improve job-housing balance
  • Reduce VMT/capita
    – 5-10% first 20 years
    – 5% next 10 years

Additional requirements for all municipalities are shown.
• Designate lands to improve job-housing balance – designate and use sites to provide housing for work force in close proximity and to provide jobs of the types fitting local resident labor force
• Reduce VMT/capita – VMT per capita must be reduced by specified amounts during the first 20 years after plan approval and then by an additional amount in the following 10 years

• Photo: office development near light rail stop in Gresham, Oregon
Examples
State of Oregon (cont.)

• Oregon Highway Plan
  – Designates “special transportation areas” and other special areas
  – Encourages development to occur where planned
  – Designates “expressways”
    • Major connecting routes
    • Acquire access rights
  – Access management

The highway portion of the OTP is the Oregon Highway Plan (OHP). The OHP contains most of the traditional highway portions of state transportation plans. Some unique parts of the OHP related to smart growth are:

•“Special transportation areas” (STA) – these are areas that can be designated on local agency request and compliance with stated criteria. They are usually local business districts that have state highways running through them. The purpose for STA designation is to permit local agencies to make changes to the highways to make them more compatible and supportive of local community and district needs. These may be making the road more pedestrian friendly, slowing traffic, providing curb parking, landscaping, etc. Cost of such improvements is born by local agencies.

•“Expressways” – designated highways whose principal purpose is mobility. “Expressways” are not necessarily freeways or controlled access roads; this is a designation only. Those highways cannot have STA segments on them. ODOT acquires access rights in all new and upgraded sections of expressways.

•Access management – ODOT uses access management as do many other states. However, ODOT also uses access management as a tool to manage growth and development. ODOT can deny access where a proposed development is not consistent with local plans.
Examples
State of Oregon (cont.)

• Transportation Growth Management Program
  – Grants
  – Advocacy
  – Education
  – Technical assistance
• Modified design standards

ODOT and DLCD operate the Transportation Growth Management Program that contains many features including those listed:
• Grants – support planning and implementation preparations (e.g., code development)
• Advocacy – mainly public education and promoting smart growth as interpreted in the Oregon program
• Education – work with Oregon’s local agencies to help them develop and implement smart growth
• Technical assistance – comes in several forms ranging from providing technical documents describing specific parts of the program to codes and guidelines for use in implementation
• Modified design standards – under development in 2002, but expected to provide more guidance for urban roads to be compatible with desired urban conditions
Examples
State of Oregon (cont.)

• Results
  – All agencies have plans
  – Urban sprawl contained (~10% of prior consumption per capita)
  – Smaller lot sizes
  – Higher density
  – Less infrastructure costs
  – More complementary state investments
  – Access management working to manage development
  – State roads becoming “friendlier” to communities

Results to date:
• All 240 Oregon municipalities, all 36 counties, and all 3 regions have approved comprehensive plans (since 1985).
• Sprawl has been greatly reduced, with land being consumed by UGB expansion at only 10% the rate per capita of the 1960s.
• Residential lot sizes have been reduced about one-third to decrease land consumption.
• Density has also increased about 17%.
• Infrastructure costs are less (due to decreased sprawl).
• More complementary state investments, which is termed “smarter” because there is more coordinated and better thought out rationale for investments.
• Access management is working to manage development, and in some places handling of access permits has moved development to desired locations.
• State roads are becoming “friendlier” to communities. Since beginning the STA program some roads have been modified to increase compatibility, and a bypass policy has been established to permit alternative routes or new highways to carry major through traffic movements or supplement capacity of “main street” highways.
Examples
Portland Region

• Initiation
  – Area concerns
    • Rapid growth and sprawl
    • Infrastructure, service cost concerns
    • Projected congestion
    • Quality of life
  – Established regional government 1978
    • To manage regional growth
  – Adopted UGB 1979 (24 cities)

Portland region (one of three designated regions; has 24 cities)

Self explanatory
Examples
Portland Region (cont.)

• Considerations
  – Land consumption
  – Congestion
  – Open space
  – Air quality
  – Travel times, distances, VMT
  – Urban neighborhoods, landscape
  – Costs

Planning considerations used in comprehensive and transportation planning

Photo: compact development at Gresham Station in Gresham, Oregon, with natural scene in background
Examples
Portland Region (cont.)

• **Strategy**
  – More efficient use of land
    • Compactness
    • Density
  – Business centers on main streets, transit routes
  – Protected open space
  – True multimodal transportation system
  – Maintain separation from external communities
  – Diverse housing choices
  – 6 - 8% increase in UGB over 50 years

Most self explanatory

• Maintain separation from external communities – plan designates which smaller communities will become part of Portland urban area and which ones will remain separate. Urban growth will not approach the independent communities.
• UGB – projected increase in UGB boundary area is 6-8% over 50 years; several small expansions have occurred so far over about two decades.
Examples
Portland Region (cont.)

• Other features
  – No additional freeway expansions
  – Use transit to shape development
    • Transit station communities
  – Designated regional centers (11 major)
  – Rural reserves and open spaces
  – Industrial areas and freight terminals
  – Regulation of large retail development

Other features – mostly self explanatory

• No additional freeway expansions – freeways will be reconstructed and minor improvements made, but no widening to add more lanes is planned for the Portland area core.
• Use transit to shape development – the Westside Max (LRT) line was built through major undeveloped areas to get them to develop in transit-oriented style; this appears to be having the desired effect, but it is too early to be conclusive.
• Regulation of large retail development – limiting major retail developments to designated centers.
New Developments
Orenco Station, Portland area

- Region center
- Transit-oriented development
- Mainly residential
- New urbanist design concept
- Pedestrian priority and friendly
- Along regional arterial road
- Adjacent to 2 large employers

Located in Hillsboro on far west end of Portland region. It has residential, office, convenience retail, restaurant, and live work space all within a conveniently walkable area.

Development is compact with small lot sizes. The internal streets are networked and arranged so the main street that connects to the light rail station is the axis of the community.

Local shuttle is also provided by van.

Streets are 25 feet wide with parking on one side.

Setbacks are 13–19 feet for detached homes and 8 feet for townhouses.

Garages are virtually all off alleys.

The walking environment is very attractively landscaped and benches and other amenities have been provided in the commercial center and other locations.

A regional arterial street passes through in the east-west direction. It has bike lanes and streetscaping as well as curb parking in this area.

The development is within walking distance of a Westside Max (LRT) station.

Two major employers are close by and are walkable from some parts of the development.

The Portland 2040 plan called for the station to be a town center which the Orenco Station plan (“station community residential village”) is based on.

When complete, Orenco Station is designed to be a transit-oriented development.

Total residential is about 1,800 units. There are 26,000 square feet of community retail (about 45,000 ultimately) and about 30,000 square feet of office space (ultimate plan is for about 40,000).

Complete north of east-west road on plan; just started on south. Residents do walk and bike to Westside Max station shown on map as “transit center.”
Examples
Gresham, Oregon

• Objectives
  – Economic development
  – Growth

Gresham is one of the Portland municipalities; located on eastern end of region; has not been a rapidly developing area. Gresham wishes to grow more, although they want to grow according to smart growth principles.

Photo: natural features adjacent to Gresham Station in Gresham, Oregon
Examples
Gresham, Oregon (cont.)

• Actions
  – Comprehensive plan
  – Land assembly
  – People-friendly streets
  – Main Street revitalization
  – Smart growth design concepts
  – Concentrate development at LRT stations
  – Public facilities in growth centers

Most self explanatory

• Land assembly – city is assembling land to facilitate and encourage development of types desired (transit-oriented residential, higher density residential, major retail, commercial, other economic base development)

• Photo: redeveloped downtown area in Gresham, Oregon
• This development in central Gresham consists of big box, but with some convenience retail.
• Several building sites remain to be developed.
• The Eastside Max station shown at one corner of center (see upper right photo) also serves City Hall on and adjacent parcel.
• Parking lot main aisles are designed similar to local streets to facilitate pedestrian movement and improve appearance.
• Residential (apartments) under construction will provide walk-in market.
Examples
California

• Redesign arterial highways to add:
  – Parking
  – Bike lanes
  – Widened sidewalks
  – Medians
  – Safer crosswalks
  – Landscaping

Self explanatory

Photos: before-after comparisons
The Kentlands is located in the Maryland suburbs of Washington, D.C. The development has about 2,000 residential units of various types. The commercial center and adjacent big box retail center are oriented to adjacent state highways. Residential development is complete, and retail development is almost complete. Retail has not been very successful and is being reconstituted. Residential has done well, and housing resale values are approximately 30% higher than those of comparable housing in adjacent developments. Commuter rail transit is several miles away, and the local transit connector was not initiated until The Kentlands was nearly completed, so auto commuting prevails.
Celebration
Orlando, Florida area

- Mixed-use residential community
- New urbanist design concept
- Highly walkable
- Town center concept

• Like other examples cited, Celebration is an outlying development.
• It is mostly residential with a commercial center with retail, theater, and hotel.
• A health center is on the opposite side of the expressway, as is an office center; neither is within convenient walking distance of residential.
• This is a beautiful pedestrian-friendly environment.
• Being close to Disney World and other tourist attractions, Celebration draws tourists; retail is oriented more to tourists then residents, with resident retail needs being met mainly along adjacent highways outside development.
• No transit connections or local service.
Examples
Austin, Texas

• Objectives
  – Determine how and where to grow
  – Improve quality of life
  – Enhance tax base

• Determine how and where to grow – direct growth where it will be most beneficial and meet regional objectives, such as preservation of open spaces and protection of the ground water recharge zone; use traditional neighborhood design, transit-oriented development to develop in the desired development zone (DDZ), and avoid the drinking water protection zone (DWPZ)

• Improve quality of life – preserving and enhancing neighborhoods, protecting environmental quality, improving accessibility and mobility, strengthening economy

• Enhance tax base – strategic investments, efficient use of public funds, regional partnerships
Other Examples

Other examples (clockwise from top left):
• Redevelopment of old Sears regional office-distribution center into condos at inner city site, Dallas, Texas
• Multi-use district with residential, retail, restaurant, and buildings along or minimally set back from sidewalks, Austin, Texas
• Redeveloping downtown site with residential, Austin, Texas
• Mixed-use redevelopment site with condos, ground-floor retail, service, restaurant, and internal garage, central city site in Houston, Texas
• Redevelopment of old warehouse/industrial site with condos, Dallas, Texas
Other Examples

Compact mix of land uses provides a variety of activities, for instance jobs, housing, and entertainment, within walking distance of each other. Downtown Kirkland, Washington.

Other examples (clockwise from upper left):
• Downtown Kirkland, Washington (explanation on slide)
• Harbor Town new development on island adjacent to downtown Memphis, Tennessee
• Central city redevelopment with transit- and pedestrian-friendly amenities, Houston, Texas
Other Examples

The Crossings, Mountain View. Redevelopment adjacent to a Caltrain commuter rail station.

Porches, sidewalks and narrow streets of Lakelands, Gaithersburg, Maryland, are arranged in traditional grid-like patterns.

Other examples (from left):
• Redevelopment adjacent to commuter rail station, Mountain View, California.
• Smart growth/new urbanist design with small setback, front porches, Lakelands development in Gaithersburg, Maryland
ROLES OF TRANSPORTATION IN SMART GROWTH

The following slides show how transportation plays a role in smart growth.
Transportation Roles
Accessibility

- Shape development
  - Location of transportation facilities
  - Access policy
  - Investment priorities
- Influence market by changing accessibility to business
- Influence conditions in adjacent area
  - Traffic presence, appearance, noise
  - Support for pedestrian environment
  - Appearance, character
  - Safety, security
  - Parking

Self explanatory

Photo: Legacy Park in Plano, Texas
Transportation Roles
Guide Growth by Location of Transportation Facilities

- Roads
- Interchanges
- Transit stations
- Other transportation terminals
  - Truck/freight
  - Airports
  - Ports
  - Other multimodal

Self explanatory
Top photo: Mockingbird Station in Dallas, Texas
Transportation Roles
Guide Growth through Access Management

• Area
• Street system access to highway system
• Location
• Site
• Control conflict points
  – Traffic, ped, bike

Photo: City Place in West Palm Beach, Florida, a mixed-use community with high walkability; shows where neighborhood meets its highway boundary
Transportation Roles
Multimodal

• Provide travel choices
• Reduce reliance on driving
• Create incentives, disincentives

Incentives, disincentives – provide incentives (or disincentives) to travel other than by driving; examples can include transit-oriented development; transit amenities such as attractive bus stops and pedestrian connections; preferential parking for vanpools and carpools, etc.

• Photo: DART multimodal transit stop with bike rack, covered waiting area with seating, and paved walkways in downtown Plano
Transportation Roles
(Economic) Sustainability

• Accessibility
• Business and living environments
• Protection of sensitive resources
  – Agricultural land
  – Forests
  – Open space
• Appearance

All of the above factors can help to increase sustainability of viable communities, regions, and states.

Photo: an aesthetically pleasing bridge on SH 360 in Austin, Texas enhances this transportation project
The above factors contribute to most peoples’ interpretation of quality of life.

Photo: College Station Business Park in College Station, Texas
Transportation Roles
Make Streets More Friendly

• “Calm,” slower neighborhood traffic
• Safety from traffic
• Security
• Appearance
• Comfort
• Walkability
• Amenities
• Connectivity
  – Convenience
  – Shorter distances

The above are characteristics of friendly streets.

Photo: redevelopment area in Houston, Texas
Transportation Roles
Streetscape Functions

- Pedestrian-traffic separation
- Safety
- Security
- Cooling for pedestrians
- Sense of place
- Friendliness

Self explanatory

Top photo: College Station Business Park in College Station, Texas
EXAMPLES OF
SMART GROWTH IN TRANSPORTATION

The following slides give examples of different types of smart growth transportation techniques.
Clockwise from left:

• Eastside Max LRT stop at Lloyd center in Portland, Oregon. Multi-use development with office, hotel, regional retail, some residential, convention center, and arena. In part of downtown, a fare-free transit zone, even though it is about a mile away from downtown, encourages transit use.

• Portland downtown LRT is on a well landscaped street to make it more pedestrian and transit friendly.

• A San Diego Trolley pulls out of an office building built on air rights over the transit station.
Clockwise from left:

• Portland Eastside Max LRT station with adjacent transit-oriented apartment development

• Gresham, Oregon Main Street. Notice old section in foreground and redesigned section in background. New section has sheltered parking lanes and sidewalk extensions to shorten crosswalk lengths, narrower traffic lanes, wider sidewalks, improved street landscaping and street furniture, lighting, etc.

• Transit center in Gresham with redevelopment in background consisting of offices, community center, parking garage, townhouses
• Left photo: downtown baseball stadium built on former railroad lands and incorporating historic Union Station adjacent to proposed new residential development, Houston, Texas
• Right photo: Condos in city center redevelopment area in Houston, Texas; streets modified to provide landscaping and wider sidewalks as well as sheltered parking bays and sidewalk extensions to reduce crosswalk length
Left to right:

• Left photo: State highway in Oregon modified to provide sidewalk landscaping, bike lanes, curb parking

• Right photo: Martin Luther King Blvd. (State Highway 99) in Portland, Oregon, modified from former major state highway cross section to four lanes with curb parking, landscaped median, sidewalk landscaping
WHAT SOME OTHER STATES ARE DOING

The following slides show other state DOT smart growth actions.
Maryland DOT, State Hwy. Admin.

- Neighborhood conservation
- Transportation enhancement programs
- Access management
- Ridesharing program
- Scenic byways

Self explanatory grant programs

Photo: I-68 near Hancock, Maryland, where it cuts through Sideling Hill
Oregon DOT

- Five agencies work together
  - DOT 1 of 2 lead agencies
  - 19 statewide smart growth goals
- Planning grants
- Technical assistance
- Modified design standards
- Designated “special transportation areas”
  - “Main Street” highways can accommodate local functions
  - “Bypasses” encouraged
- Access management to help manage development
- No more freeway expansions in Portland
- Different investment criteria

Previously presented under description of Oregon programs (slides 39-48)
Caltrans

- Grant programs
  - Community-based transportation planning
  - Environmental justice
  - Transportation, community and system preservation (TCSP) pilot grants
- Technical assistance
- Context-sensitive solutions
- Non-motorized travel
- Transit-oriented development
- Safe routes to school

Self-explanatory grant programs and technical assistance; trying more context-sensitive design solutions as well as grants to local agencies
Florida DOT

- Growth management
- Adequate facilities requirement
- Access management
- Environmental preservation
- Funding programs
- Multimodal transportation districts

• Growth management – long standing program with state playing role in conjunction with counties and cities
• Adequate facilities requirement – requires that development not overtax transportation and other public facilities; mitigation through developer improvements or impact fee programs
• Access management – to preserve capacity of existing roads
• Multimodal transportation districts – designated area where pedestrians are given highest priority and vehicles are of secondary importance to encourage use of modes other than personal vehicles

• Photo: DeLand, Florida, a town village type development deemed appropriate as a multimodal transportation district by FDOT
SOME THINGS TxDOT IS ALREADY DOING THAT WOULD SUPPORT SMART GROWTH

TxDOT already has many programs and policies that can support smart growth at the local and regional levels.
TxDOT Existing (Smart Growth) Actions

- **Comprehensive plan participation**
  - Statewide transportation plan
  - MPO regional transportation plans
  - Some local plans

TxDOT
- Produces and updates a statewide transportation plan that can support the consolidated local and regional objectives as well as statewide objectives
- Coordinates with MPOs on regional transportation plans and funding programs
- Coordinates with many local municipalities, counties, and authorities on their local plans
TxDOT Existing (Smart Growth) Actions (cont.)

- **Highway location**
  - Route selection
  - MISs or equivalent
  - EA, EIS

- **“Bypasses”**
  - Congested urban highways
  - Currently limited to new state roads

TxDOT
- Conducts highway location and design studies including Major Investment Studies (MISs), Environmental Assessments (EA), and Environmental Impact Studies (EIS)
- Considers environmental objectives and impacts, including local plans
- Evaluates feasibility of and builds bypasses to relieve in-town congestion or provide more cost-effective routes for through traffic currently passing through urban areas

Graphic: alignment alternatives for new section of SH 190 in Dallas-Ft. Worth area
TxDOT Existing (Smart Growth) Actions (cont.)

- Access management
  - New policy
  - Applies to street and property access
  - Rule (enforceable)
  - Can be used to protect right-of-way and capacity
  - Not yet envisioned as land development management tool

TxDOT
- Is about to adopt a new more comprehensive access management policy that will help to meet some smart growth objectives
TxDOT Existing (Smart Growth) Actions (cont.)

- Enhancements
  - Sidewalks
  - Bike facilities
  - Streetscape, landscape improvements
- Context-sensitive design
- Transit and HOV priorities
  - Separated lanes
  - Buffered lanes
  - Transit, HOV queue jumpers

TxDOT has an active highway enhancement program that has provided landscaping and other improvements consistent with smart growth and providing livable communities. TxDOT also has supported transit and HOV priorities on freeways to help transit and ridesharing be more competitive and beneficial.
TxDOT Existing (Smart Growth) Actions (cont.)

- **Support development and redevelopment**
  - Ramp additions and modifications
  - Capacity improvements anticipating development
  - “Economic development” roads

- **Environmental preservation**
  - Wetlands
  - Forests
  - Farm land
  - Open space

TxDOT also provides support for redevelopment and environmental preservation as parts of many of its construction projects.
TxDOT Existing (Smart Growth) Actions (cont.)

• Investment prioritization
  – Project selection
  – Funding prioritization
  – Criteria responsive to TxDOT objectives
  – Joint projects with other agencies

• Management and operations
  – Increase effectiveness and efficiency
  – Improve resource efficiency

Self explanatory
LESSONS LEARNED BY OTHER DOTs

• Smart growth takes time
  – New development patterns take time to become prevalent
  – New practices take time to be applied well

• Must change mindset first
  – Educate decision-makers
    • Objectives
    • Benefits and consequences
    • Process

Lessons learned by other DOTs:
• Smart growth takes time because much of it involves new development or redevelopment. Since cities do not grow or redevelop overnight, most aspects of smart growth need to be implemented on a continuous basis over many years.

• In addition, new practices take time to perfect and to implement consistently across a region or state.

• Smart growth involves changing the outlook and desires related to future development and desired conditions; education of policy-makers is needed, as it is for almost any major change.
LESSONS LEARNED BY OTHER DOTs (cont.)

- Requires partnership with local agencies
  - Both local and state involvement needed
  - Local agencies control development
- Communications improve among agencies
- Provide tools, technical assistance
  - Education and outreach
  - Need to demonstrate new ways
  - Problem solving builds partner support
- Grants needed to expedite process
  - Local agencies may not have resources for new requirements

Smart growth needs:
- Partnerships among agencies at all levels; smart growth needs planning, transportation, public works, redevelopment, environmental, economic, and other agencies and departments to all cooperatively pursue the various aspects of smart growth.
- Interagency communications and cooperation usually improve when smart growth is pursued. Common objectives bring agencies together.
- For success, implementing agencies need the proper tools. The state DOT or other state agencies are usually in the best position to provide assistance and funding to initiate programs.
- Grants are needed to expedite the process of starting and implementing smart growth (as in other programs). Usually smaller agencies have not had the necessary staff or technical resources to make the needed changes. States found that grants are needed; many provide at least planning grants.
LESSONS LEARNED BY OTHER DOTs (cont.)

• More specific, enforceable regulations are more successful
  – Flexibility has led to slow decision-making
• Design standards can be flexible and work
  – Adapt to specific conditions
  – Some safety improvements in smart growth approaches

Experience has shown that:
• More specific, enforceable regulations have worked better than flexible policies. Too much flexibility has led to uncertainty on the part of several or all parties, delays in application/permit reviews, and dissatisfaction on the part of all due to uncertainties and delays.
• Flexible design standards can work for context-sensitive design, but it cannot be too flexible in general or reviews go very slow and concern about liability increases.
LESSONS LEARNED BY OTHER DOTs (cont.)

- Turning some roads over to local agencies can be mutually advantageous
  - Reduce maintenance costs
  - Let local agencies address local problems
- Streetscape improvements by themselves do not always work
  - Need market demand for financial success
  - Security may be an issue
- Don’t initiate too many things at once
  - Both at state and local levels
  - Minimize overload and confusion

Mostly self explanatory

• Oregon cautioned about trying to start too many smart growth initiatives at once. They suggested a few at a time. Leadership from the top is most helpful in starting up.
CASE STUDY

• Teams of 3–5 people
• To do:
  – Plan a new highway location between points A and B
  – Select a development site
  – Lay out access and general design concept
  – Other related smart growth suggestions

Seminar case study:
Split class up into groups of 3-5 people, depending on room layout, number of participants. Teams need to be able to talk and sketch together. Provide easel pads or similar size paper so teams can present their ideas. Participants need pencils and erasers, too.

• Problem statement:
Yourtown USA is a small city in the middle of the state. There is no city of any size within 75 miles. The city has a population of about 7,000, although 10,000 additional people live in small towns and rural areas within about 15 miles, mainly along State Highway 99 (SH 99). SH 99 passes through Yourtown’s downtown, which is like most small downtowns – struggling to be viable. The existing businesses are tourist and convenience retail and a few restaurants. Yourtown’s council and mayor have a plan to redevelop several blocks on the west side of downtown (site shown in yellow on slide 95). That site has about 40 acres, including existing streets. The city is willing to work with a developer to make a development viable, but wants to follow smart growth concepts.

Roy Adams has come to town proposing a 120,000 square foot discount store and another 80,000 square feet of retail. He says he needs about 25–30 acres minimum for the buildings, parking, and landscaping, etc.

Continued next page.
CASE STUDY

• Teams of 3–5 people
• To do:
  – Plan a new highway location between points A and B
  – Select a development site
  – Lay out access and general design concept
  – Other related smart growth suggestions

Notes – part 2:

Joe Smith has a 40 acre parcel for sale along SH 99 just outside the city limits on the east side of town. He is actively seeking a buyer.

The Yourtown council and state DOT have discussed relocating and improving SH 99, especially the part west of County Road 410 (CR 410). They have agreed it needs to be done, but no alignment has been explored to date.

Additional information is on the information sheet in your workbook.

Your assignment, in teams of ___ people that will be selected, is to develop a plan to include at least the following:
• Site for the proposed development
• Conceptual site plan showing general building configuration (outside walls) and entrance locations, parking lot, access points, and any special pedestrian provisions you think would be advantageous.
• New alignment for SH 99; it should bypass Yourtown’s business district.
• Suggestions of how to get Roy Adams to develop at your recommended location and according to your plan.
• SH 99 has a 100 foot right-of-way through downtown Yourtown, with four moving lanes, a 2-way left-turn lane, and 14 foot sidewalks. What should be proposed for this street after the new section of SH 99 is completed?
• How you will “sell” the plan to the developer, state DOT, and mayor and city council.
• You will have approximately ___ minutes (until ___ PM). At that time, each group will have 5–10 minutes to concisely present its plan and arguments for doing it your way. Please use the large paper to sketch out your ideas. You need not be highly detailed; we are looking for concepts. Remember, you are now experts in smart growth, and that is what the city fathers are seeking.
Instructor: The following sheet is intended to be reproduced and handed out to participants for use in developing suggested recommendations:

1. Existing conditions map (slide 97)
Smart Growth Street?

If SH 99 through downtown has the following cross-section:

What would you recommend to make old SH 99 more compatible with a revitalizing business district with tourist- and convenience-oriented commercial development?
CASE STUDY SOLUTIONS

• Case study review
• Questions, answers, discussion

Case study solution notes – part 1:

Route new SH 99 around the north side of downtown adjacent to the bottom of the hills. Connect to existing SH 99 through the storage yard at the west end and the vacant parcels at the east end. (Show slide 96 and hand out copies.) The city may help acquire property so they can redevelop what is left. Alternatively, CR 410 could be used if the county agrees and if right-of-way is sufficient. Access management will be easier on the north route since existing access along CR 410 includes both driveways and streets. We do not have enough information to select the best alternative.

The preferred smart growth site for Roy Adams’ new retail center is the city’s redevelopment site. It will help strengthen the existing downtown business district and will provide a solid anchor. (Hand out copies of slide 97.) The site plan should orient the buildings to the east, possibly with main entrances of the intersection of old SH 99 as shown on the sketches in the presenter’s binder. Parking should be on the west end of the development, with access from old SH 99. That will help to reinforce old SH 99’s role as the main street and not require driveway access from the new section of SH 99.
CASE STUDY SOLUTIONS

- Case study review
- Questions, answers, discussion

Case study solution notes – part 2:

Old SH 99 will have less than the existing 10,000 ADT once the bypass is completed. It should be able to function with two moving traffic lanes (subject to confirmation in a traffic study). That would permit bike lane and curb parking to be added as well as wider sidewalks. (Hand out copies of slide 98.) Parallel parking would permit the widest sidewalks, which might be good if sidewalk dining is desired. More parking can be derived from angle parking, but safety considerations should be discussed before using that type of parking. The wider sidewalks will accommodate sidewalk landscaping and other street furniture, which can help to make the downtown area more attractive to tourist and other shoppers.

Market the suggested changes as a way to make downtown the place to be and to give it special attractive character as well as a strong retail attractor (Roy Adams’ development). Success will increase tourist trade and local jobs, and attract more tax dollars, too.
Instructor: The following sheets are not included in the participant’s workbook and should be reproduced and handed out after the participants have completed their proposed recommendations:

1. SH99 bypass alignment (slide 102)
2. Conceptual site plan (slide 103)
3. Alternative cross-section slide (slide 104)
Bypass can be routed along bottom edge of hill to pass residential. Connect to existing SH 99 through vacant land and storage yard to be acquired. Other option could be via CR 410.
Alternative Cross-Sections

- **Alternative 1**: 4 lanes, bike lanes, parallel parking
- **Alternative 2**: 2 lanes, parallel parking, bike lanes
- **Alternative 3**: 2 lanes, bike lanes, angle parking
WRAP UP

• General discussion
• Workshop evaluation
• Presenter’s final suggestions

• General discussion – ask for questions, opinions, and/or whatever seems to be useful
• Workshop evaluation – sponsor should provide the presenter with a form for participants to use to critique the workshop and provide suggestions for improvement. Have each participant complete one and hand it in as they leave. State that evaluations are anonymous unless they wish to identify themselves.
• Presenter’s final suggestions – this is your time to make any final statements, suggestions, or ask for suggestions to improve the workshop. You may wish to remind participants how they will be able to use what they covered in this workshop. If short of time, you may skip this.
• Thank participants for coming and wish them luck using their smart growth knowledge and resource materials in their workbook.