Martin and St. Lucie Counties Regional Land Use Study Phase II - Final Report

June 2003

Study Coordinated by the

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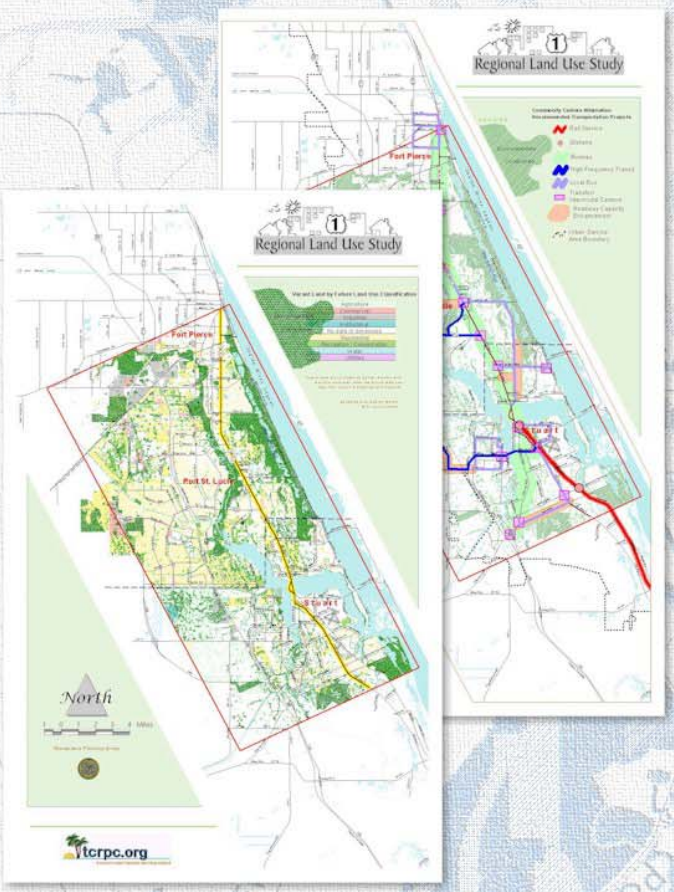
treasure coast regional planning council



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Martin County
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City of Stuart
Florida Department of Transportation
Florida Department of Community Affairs

Other Participating Agencies

Treasure Coast Regional Planning Council
City of Port St. Lucie
City of Fort Pierce
St. Lucie County
Community Coach

Prepared by

RENAISSANCE PLANNING GROUP

MARTIN AND ST. LUCIE COUNTY REGIONAL LAND USE STUDY: PHASE II SUMMARY REPORT

Prepared for:

TREASURE COAST REGIONAL PLANNING COUNCIL

Prepared by:

RENAISSANCE PLANNING GROUP

May 1, 2003

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MARTIN AND ST. LUCIE COUNTY REGIONAL LAND USE STUDY – PHASE II COMMUNITY CENTERS IMPLEMENTATION STRATEGIES SUMMARY REPORT

INTRODUCTION

This Summary Report provides an overview of Phase II of the Regional Land Use Study for Martin and St. Lucie Counties. The study area extends from the southern end of Fort Pierce in St. Lucie County to south of Port Salerno in Martin County, and includes all land to the western edge of the urban service boundary for both Martin County and St. Lucie County.

The Regional Land Use Study is intended to address some of the major regional growth management issues facing the St. Lucie County and Martin County study area, identify possible courses of action, and set a regional framework for improved coordination of land use and transportation decisions. Phase I of the study was completed in January 2002 and recommended an integrated land use and transportation vision that clusters study area development into transit-oriented and pedestrian friendly Community Centers. Transit stops are the focal point of the centers, with the pedestrian friendly design extending at least a quarter mile from the station.

Phase II of the study was completed in May of 2003 and focused on how Community Centers can be developed in the study area. The implementation tools developed during Phase II are intended to be helpful guides that localities can adapt and use to implement the Community Centers envisioned by the Phase I analysis.

Study Process

The Treasure Coast Regional Planning Council coordinated the Regional Land Use Study, with agency funding and participation from Martin County, St. Lucie County, the City of Stuart, the Florida Department of Transportation and the Florida Department of Community Affairs. Other actively participating agencies included the City of Ft. Pierce, the City of Port St. Lucie, and the St. Lucie County Community Coach a public transportation provider.

As noted above, the study was conducted in two phases. The first phase was funded with state and local revenues and recommended an integrated land use and transportation vision for the study area. The second phase was funded through a federal grant, and focuses on the strategies needed to implement the recommended vision.

Throughout both phases of this study, a steering committee of participating local and state agencies met regularly to provide technical and policy guidance and to review draft work products. In addition, Phase I of the study was structured around an active public participation program that included accessible public workshops, newsletters, displays, presentations, a web site and other means of involving citizens and interest groups in the process. Phase II recommendations were reviewed with the real estate roundtable, elected officials, and other active participants in Phase I. The study's recommendations reflect the technical analysis as enhanced by those public participation opportunities.

Study Context and Purpose

The Regional Land Use Study evaluated the degree to which changes in the area's land development patterns influence future transportation needs and priorities. One of the primary needs in the study area is addressing congestion on US 1. The Florida Department of Transportation has identified the need to expand the highway to eight lanes in several locations and to construct grade-separated interchanges at Jensen Beach Boulevard and Port St. Lucie Boulevard. These overpasses alone are projected at close to $80 million and are not affordable, compared to more than $1 billion in other transportation projects cumulatively identified in the adopted 2025 Long Range Transportation Plans for the St. Lucie and Martin County Metropolitan Planning Organizations (MPOs).

Based on an inventory of conditions and discussions with the community during Phase I, other land use and transportation challenges facing the study area are:

- Large areas of platted, undeveloped residential lots in individual ownership, limiting the ability to assemble land for significant development, seen primarily in Port St. Lucie;
- A significant imbalance in the location of housing and jobs, resulting in long work trip commutes and economic inequities between the two counties;
- A predominantly suburban orientation, with relatively few well-defined centers;
- Physical and environmental features that limit roadway connectivity and allow for only a few, increasingly congested, continuous routes serving the area;
- Prevailing market demand in the western portion of the urban services area that results in underutilized and vacant parcels in the older, established commercial core areas; and
- A relative lack of viable alternatives to automobile travel, placing additional pressure on the existing roadway system.

In light of the area's land use characteristics and transportation prospects, local governments undertook this study to examine alternative land use strategies that would help balance the use of transportation modes, promote economic development, preserve natural resources, and enhance the area's quality of life.

To address those challenges, Phase I of the study answered the following key questions:

- Can developable land within the existing urban service area boundaries of both counties fully accommodate projected population and employment growth through 2025?
- Can an alternative land use and transportation development scenario eliminate or at least delay the need to construct major roadway capacity expansions along US 1?
- How can US 1 evolve into a true multi-modal corridor that supports expanded travel choices?

PHASE I OVERVIEW

The future conditions analysis for the study evaluated three distinct land use scenarios:

- A continuation of existing development trends through the year 2025;
- A redirection of future growth into the US 1 corridor to achieve higher population and employment densities, which will allow for rail service and other advanced forms of public transportation; and
- Clustering development in dispersed town centers located throughout the area.

Each scenario included its own unique set of transportation system improvements. The evaluation used the regional travel demand model and other tools to project the impacts of each alternative and to determine the effectiveness of various transportation solutions.

The results of the scenario evaluation concluded that the continuation of existing development trends will result in significant congestion on US 1 and will not promote alternative modes of transportation, which results in negative economic development and environmental impacts. The redirection of growth into the US 1 corridor did increase transit ridership, but the increased development along US 1 also increased congestion to unacceptably high levels. The third scenario, which clusters development in centers throughout the study area, encouraged non-automobile travel and shifted enough traffic from US 1 to eliminate the need for eight lanes and interchanges. The steering committee endorsed the third, Community Center- based scenario, as its land use and transportation vision for the study area.

Community Centers Vision Statement

As a result of the public input, technical analysis, and policy evaluation completed for this project, the following vision statement was crafted to guide subsequent activities and communicate the study's key recommendations.

Establish geographically dispersed compact, mixed-use community centers that provide for better jobs-housing balance through complementary land uses in closer proximity to residential areas. The intent of creating such activity centers is to preserve environmentally sensitive areas and agricultural resources, and reduce the number and length of inter-county automobile trips through expanded travel choices for residents and employees. In support of these activity centers, the region will:

- Develop US 1 as a multi-modal transportation corridor through quality redevelopment and new development that features transit-supportive and pedestrian-friendly site design and infrastructure;
- Define the scale and develop design guidelines for mixed-use centers that reflect market demand and local character;
- Invest in public transportation strategies that reduce dependence on automobile travel between activity centers in St. Lucie and Martin Counties by providing accessible and convenient premium transit service linking key origins and destinations;
- Create an integrated network of roadways, greenways and bicycle/pedestrian facilities that improve connectivity and accessibility throughout the region; and
- Monitor land use and transportation trends to track the effectiveness of the Community Centers vision in meeting the area's livability and mobility objectives.

PHASE II OVERVIEW

The purpose of Phase II was to develop a set of tools localities can use to plan for and implement Community Centers in the study area. Phase II began with a review of existing plans and land development regulations to determine the extent to which Community Centers are proposed or can be accommodated in existing plans and regulations. The second task surveyed planning agencies throughout the country to determine best practices and successful implementation strategies for Community Center concepts to serve as a resource or model for local governments.

The third task was a demonstration project, a master plan for a site in the Village Green Community Redevelopment Area in the City of Port St. Lucie. This type of project was

requested by the steering committee to provide a "real world" example of how to develop a walkable, transit-oriented site plan within a Community Center. The steering committee believed that the experience of the demonstration project would be applicable to other Community Centers in the region. Results of the master plan also provided helpful guidance in developing implementation tools each of the localities in the study area can use to promote Community Centers, including a model set of comprehensive plan goals, objectives and policies, design guidelines, multimodal transportation district concurrency guidance, and a site plan review process.

Each of the steps taken and tools developed during the Phase II effort are summarized in the following sections. Details are provided in the various Technical Memoranda that comprise this report.

Review of Plans and Regulations

Phase II began with a review of existing plans and land development regulations to determine the extent to which Community Centers are proposed or can be accommodated in existing plans and regulations. Results of the reviews indicated that the land use and transportation plans of the five localities generally are supportive of the principles of Community Centers. However, a high level of support has occurred only recently, so many of the supportive policies indicate commitments to exploring or developing planning or implementation tools. None of the plans have goals or policies specific to Community Centers.

The level to which land development regulations support Community Center concepts varies widely among the localities. All the regulations provide for some mix of land uses in or adjacent to residential areas, as well as a range of housing densities and types. None of the ordinances appear to have major conflicts with the plans or the vision from the Phase I study, but some have greater support of walkable, mixed use development areas and affordable housing. Like the land use and transportation plans, none of the ordinances specifically address Community Centers. Details of the reviews are provided in Technical Memorandum 6: Comprehensive Plan and Land Use Regulation Review.

National Survey

The second task surveyed regions across the country to learn how others have implemented Community Centers. The ideas and opinions collected were to help the TCRPC identify policies, regulations, and tools that will support the Community Center recommendations from Phase I. A total of 48 people responded to the survey, which was conducted online through a Web site and advertised through planning-related listservs and online newsletters. Respondents hailed from 21 states and one Canadian province and represented a variety of local, regional, and state agencies. Responses also were received from a private non-profit group and two consultants, one of which staffed a transit authority. The population sizes of the agencies represented ranged from small (less than 5,000) to very large (over five million).

Respondents in all regions indicated that growth still is spreading into suburban greenfields and rural areas, with emerging efforts to redirect that growth using smart growth strategies, like Community Centers. Survey results indicated the most prevalent smart growth activities were community collaboration and creating walkable neighborhoods. Other frequently used strategies were preserving open space and fostering distinctive communities, followed by strategies supporting compact design. Strategies that supported transportation choices and mixed land use were applied less frequently. The least prevalent strategies were those that targeted development toward existing communities, created housing choices, and made the development process fair and predictable. Specific suggestions from respondents for promoting Community Centers included:

- Using a rating system to evaluate development proposals, much like the American Planning Association's Smart Growth Audit;
- Using transportation investments, particularly transit, to help target growth;
- Targeting public investments in redevelopment areas;
- Updating land development codes to encourage flexibility and innovation; and
- Making land development codes simpler to understand and enforce.

Details of the survey are provided in Technical Memorandum 7: National Survey.

Village Green Demonstration Project

During the scooping of the Phase II work, the steering committee agreed it would be helpful to create a master plan for a site in one of the Community Centers identified in Phase I – the Village Green Community Redevelopment Area designated by the City of Port St. Lucie. The City of Port St. Lucie is interested in transforming the site into a downtown with the design features of a Community Center envisioned by the Phase I study. Also, a developer is interested in the site and in working with the city to create a downtown area.

The master planning process was led by TCRPC staff and began with a series of interviews with the developer and other stakeholders. A design charette with the stakeholders defined initial concepts, which then were finalized into a master plan. The master plan includes a street and building plan for the site, perspective sketches of various places within the site, and a phasing strategy. A summary of the master plan is provided in Technical Memorandum 2: Village Green Master Plan, and a Power Point presentation about the project is available from the TCRPC.

Community Center Design, Performance and Implementation Guidelines

Results from the master plan were used to develop a set of Community Center Design, Performance and Implementation Guidelines. The document is intended to provide help to local planners and developers regarding expectations for development patterns within Community Centers and also provide information needed by localities to incorporate Community Centers into land development codes. The Guidelines present detailed information on the layout of the street network and buildings, building massing and density, street cross-sections by type, building frontages by type, open space types and characteristics, and parking types and needs. The Guidelines also provide an overview of potential phasing strategies for grayfield sites. The Guidelines are presented in the *Community Center Design, Performance and Implementation Guidelines* document.

Community Center Goals, Objectives and Policies

The work completed on the Village Green Master Plan and Design Guidelines helped craft a set of goals, objectives and policies targeted to the designation and development of Community

Centers. The model policies are intended as a resource for localities to adapt to the unique nature of each locality's plan and planning process. The goals, objectives and policies begin with the intent of Community Centers, include design and development expectations, and conclude with implementation strategies.

Multimodal Transportation District

The State of Florida enables localities to create Multimodal Transportation Districts (MTDs) in places where multimodal transportation is encouraged and concurrency requirements are modified to support non-automobile travel. To create a MTD, localities must:

- Inventory existing transportation conditions and determine existing levels of service for all transportation modes, including roads, sidewalks and bike paths;
- Forecast future conditions and determine the improvements needed within the district to improve all forms of travel; and
- Re-evaluate the modal levels of service, assuming future demand and improvements, and set a level of service standard.

Community Centers are intended to focus around transit stops and encourage walking and bicycling within at least a quarter mile of the station, clearly indicating a multimodal emphasis. As such, creating a MTD is an obvious, but not necessary, implementation strategy for each Center. Technical Memoranda 3 and 4: Multimodal Transportation District Existing and Future Analysis detail the steps taken to create a MTD in the Village Green CRA, including a multimodal improvement plan for the CRA and level of service standards for bicycling and walking based on those improvements.

While the Florida Department of Transportation (FDOT) has provided procedural and technical guidance in designating a MTD, localities have the ability to enhance or modify these measures. As urban design has a significant influence on walking and transit use, the FDOT process was enhanced for the Village Green MTD by including measures of density, diversity and design. The measures quantify how well a site meets these conditions, much like a smart growth audit indicates the attainment of objectives. These measures also are useful in the site plan review process. At the request of the steering committee, these measures were incorporated

into a spreadsheet that can be used by plan reviewers to determine how well site plans meet Community Center design characteristics.

Site Plan Review Process

A site development review worksheet requested by the project steering committee was developed as a tool for site plan reviewers to review plans submitted within Community Centers. The worksheet is in Microsoft Excel format. Users input information that is readily available from a site plan, and the worksheet calculates the extent to which the plan incorporates density, diversity and design factors in the Community Center Design Guidelines.

Technical Memorandum 5: Development Review Interactive Worksheet provides an overview and instructions for using the worksheet. It also includes discussion of technical issues and practical considerations that may be encountered in the review of site plans for density, diversity and design factors assisted by the worksheet.

SUMMARY

The Martin and St. Lucie County Regional Land Use Study began with the definition of land use and transportation scenarios for a study area that extends from Fort Pierce to south of Stuart and from east of US 1 to the western urban service boundaries near I-95, with the goal of finding a solution that promoted economic development, minimized environmental impacts, and balanced travel among travel modes. The evaluation resulted in the endorsement of the Community Centers scenario, which proposes clustered, mixed-use, transit-oriented, and walkable developments in key locations in the study area and which recommends the eventuality of bus rapid transit along US 1 and additional east-west road connections.

The study process also involved the development of implementation policies and tools that localities can use to promote the Community Centers. This second phase of the study began with a review of existing plans and land development regulations to determine existing support for Community Centers. The review found emerging support, with most policies advocating additional development of policies and tools. The Phase II work provides such support. The second step involved a survey of other planning agencies across the country. Survey results

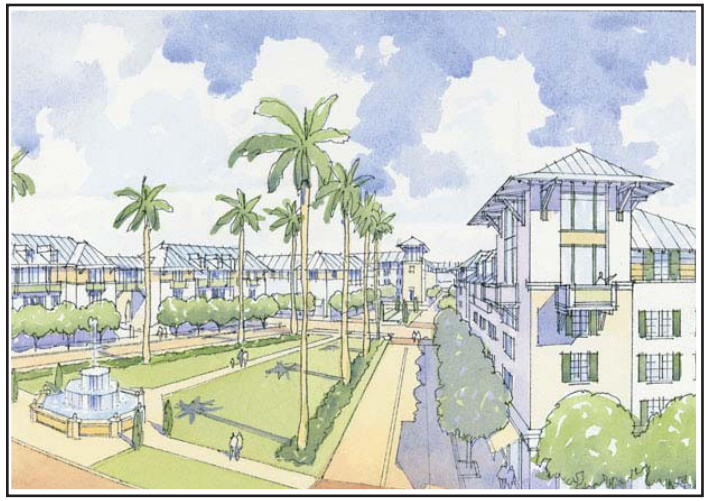
found the same emerging support for Community Center concepts, but no model jurisdiction was found.

The remaining tasks focused on building a set of Community Center implementation tools that localities could use as guides to update their plans, regulations, and review processes. The Village Green demonstration project provided a practical example of how a master plan can be created within a short time frame for Community Centers. The Village Green Master Plan provided much needed information for the Community Centers Design, Performance and Implementation Guidelines, which are intended to set expectations for Community Center development patterns and provide details needed to update land development regulations. The Master Plan and Guidelines were helpful in creating a model set of goals, objectives and policies oriented specifically to Community Centers. They were also helpful in the analysis required to establish a Multimodal Transportation District, a complementary concurrency option for localities to consider, and in developing a site plan review process localities can use to evaluate how development and redevelopment proposals meet expectations for Community Centers.

This tool set is intended as a resource to be modified to fit the unique plans and planning processes of each locality. Additional tools also likely will be needed, such as zoning and land development regulations oriented to Community Centers. Furthermore, master plans for each of the Community Centers are recommended to create relevant and clear expectations for each unique Center.

COMMUNITY CENTER

DESIGN, PERFORMANCE AND IMPLEMENTATION GUIDELINES



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COMMUNITY CENTER

DESIGN, PERFORMANCE AND IMPLEMENTATION GUIDELINES

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B. Blocks, Lots & Buildings . 3

C. Streets, Paths & Stops . 5

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INTRODUCTION

TREASURE COAST, FLORIDA

These design requirements define development expectations for the community centers proposed along the US 1 corridor of Martin and St. Lucie Counties. In a previous study, the community centers were found to be consistent with local land use plans and to have positive transportation imapcts on US 1, precluding the need for costly and out-of-scale interchanges along the roadway. The community centers promote walking, bicycling and transit use and disperse traffic on a larger roadway grid proposed for the corridor.

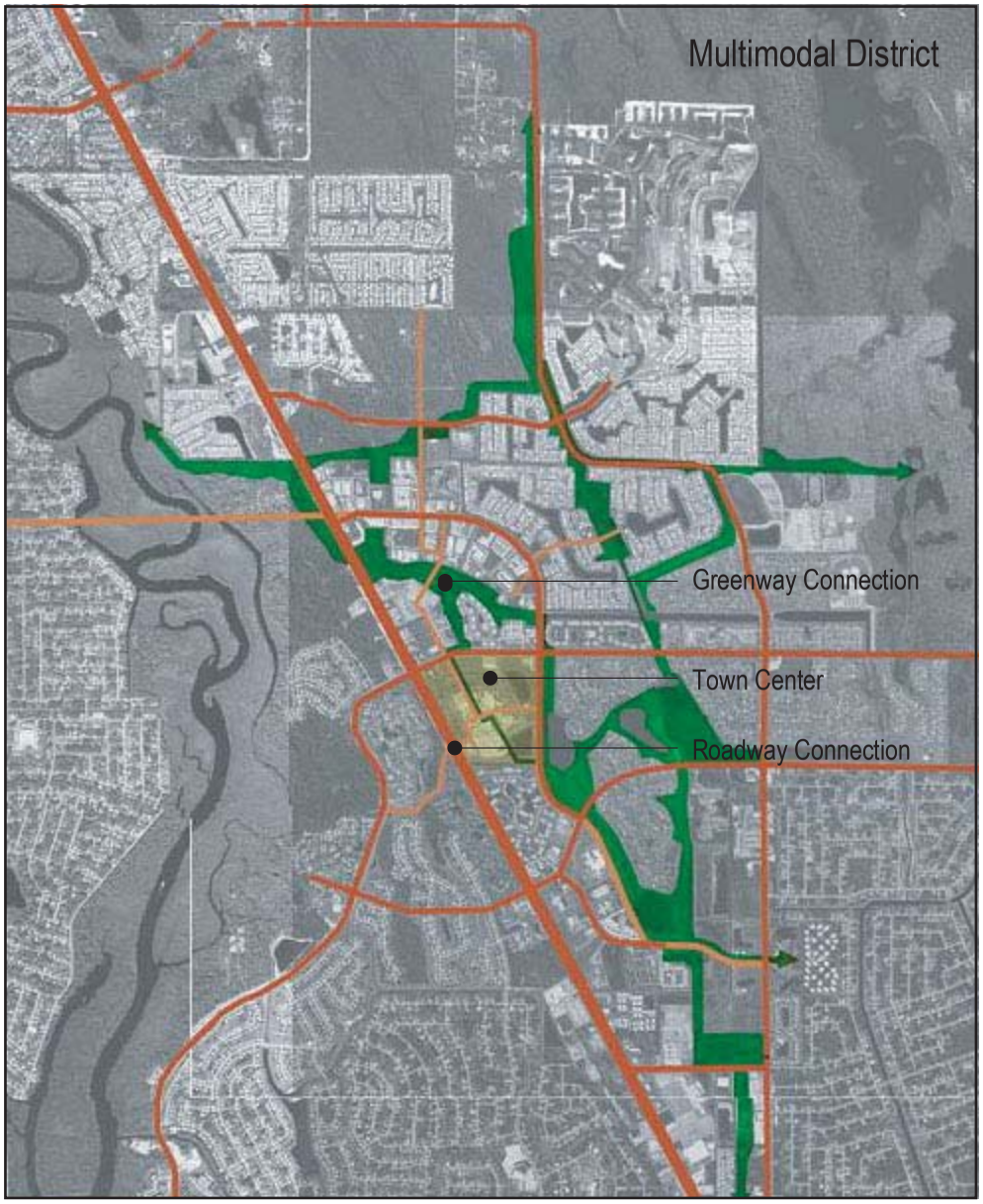
These design requirements are based on a master plan developed during a two week charrette for the Village Green area along US 1 in the City of Port St. Lucie. The site will eventually serve as the downtown for the city. Because the existing environmental, economic, and development characteristics for each community center differ, a master planning process, much like the Village Green Master Plan, is an important first step. The design requirements presented in this document inform both the master planning and the implementation processes.

Each proposed community center will be the focal point for larger multimodal transportation districts, authorized under Florida growth management statutes, to allow communities to address concurrency requirements in a broader way. Florida law stipulates that each district should be at least two square miles in area, have a mix of uses, have a focal point (such as a community center) and have ample connections. For the proposed community centers, greenway and roadway connections between the center and the rest of the district, like the connections illustrated in the Village Green Context Diagram, are an important consideration in the master planning process. Each district will also address urban design, as well as multimodal improvements, such as those provided in this document.

The design requirements begin with details for the elements of the community center, blocks, lots and buildings. Details for streets, paths and transit stops, buiding frontages, open space and parking are illustrated and described within the context of blocks, lots and bulildings. Phasing strategies presented at the end of the document provide guidance on how redevelopment can strategically influence the center's economic vitality.

Existing Mall

Community Center



Context Diagram

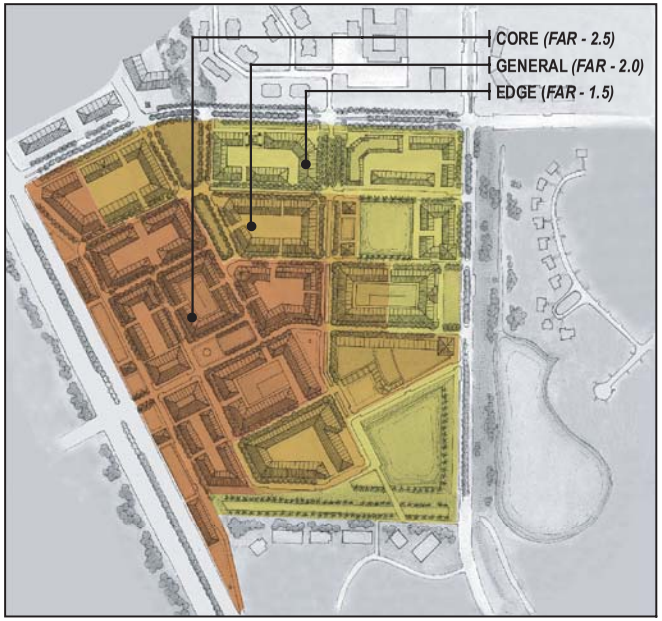
A BLOCKS, LOTS & BUILDINGS

TREASURE COAST, FLORIDA

Blocks, lots, and buildings are the elements that make up community centers. A vital, walkable center must have residential, retail and civic uses organized in close proximity and connected through networks of streets, sidewalks, and paths. Block types must be carefully arranged to provide a seamless progression from center to edge. Density, building height and frontage, street type, and landscape treatment should all reflect this transition.

The core area should have the highest building densities and floor-area ratios (FAR). Buildings should provide a strong, continuous street edge. Because the core operates as the focal center of the district, formal civic space, as well as informal gathering places, should be plentiful, accessible, and attractive.

Blocks and buildings just outside the core should integrate more residential units into the mix of commercial and retail space. Blocks along the edge may be predominantly residential in use, with a diversity of housing types encouraged. Residential buildings should be set back further from the street and punctuated by alleys and street front porches.



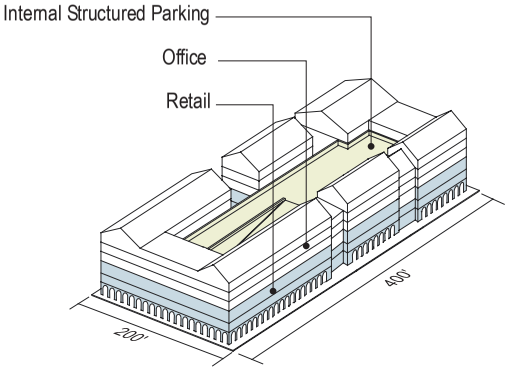
Blocks, Lots, and Buildings

CORE BLOCKS

The core exhibits the highest density and the greatest intensity of commercial uses. Building heights, frontages, and civic elements reflect the hierarchical prominence of the urban core. Internal structured parking helps maintain density. The block's vertical presence helps to form a sense of enclosure that enlivens the streetscape.

Mix of Uses - Retail, Services, Theatre, Restaurants, Office, Cinema, Grocery, Hotel, Residential, Civic, Institutional

Max Block Size - 7 acres, 400x400 ft
Minimum FAR - 2.5
Parking Ratio -3 spaces/ 1000 sf
Building Height - 4-10 stories

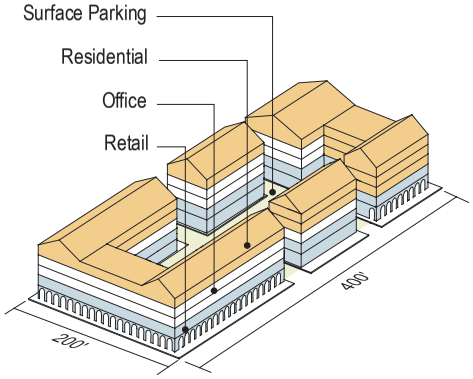


GENERAL BLOCKS

The general area supports the central core. Building heights, frontages, and civic elements should reflect gradual changes in scale and density. General blocks offer the same mixed-uses as core blocks, but at a lesser density. Internal surface parking allows blocks to maintain uninterrupted street frontages.

Mix of Uses - Office, Retail, Hotel Residential, Civic, Institutional

Max Block Size - 7 acres, 400x400 ft
Minimum FAR - 2.0
Parking Ratio - 3 spaces/ 1000 sf
Building Height - 3-6 stories

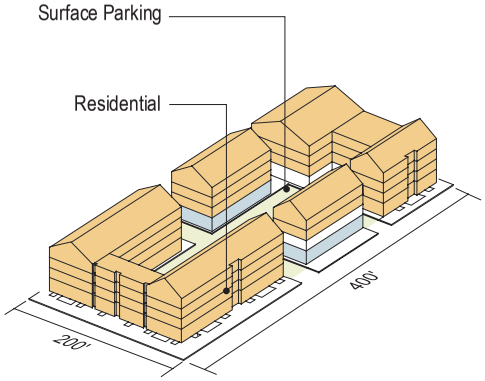


EDGE BLOCKS

The edges of urban developments should establish a more residential environment. Larger building setbacks, shorter heights, and fewer commercial uses establish a setting that contrasts with the mixed-use core. Building frontages should encourage a lively street culture among neighbors, visitors, and passersby.

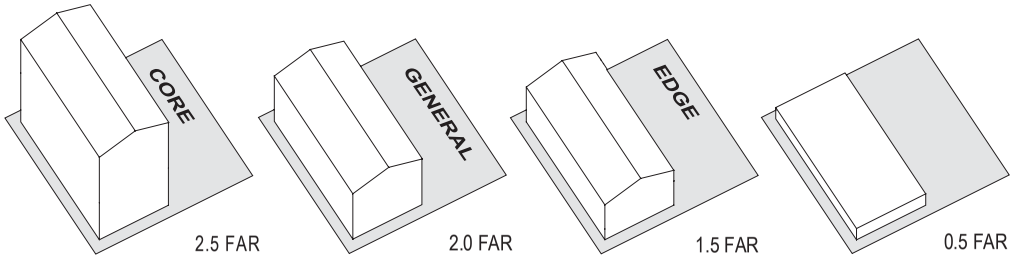
Mix of Uses - Residential, Apartments, Condos, Townhouses, Ground Floor Office and Retail

Max Block Size - 7 acres, 400x400 ft
Minimum FAR - 1.5
Parking Ratio - 1.5 spaces/unit
Building Height - 2-4 stories



FLOOR AREA RATIO

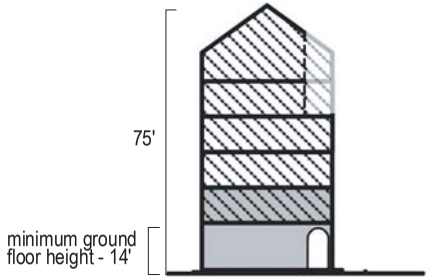
Floor Area Ratio, or FAR, is the ratio of the sum of the net floor area of all buildings on a lot to the developable site area of the lot. Two-story buildings covering 50% of the site area constitute a 1.0 FAR, while four-story buildings covering the same percentage have a 2.0 FAR.

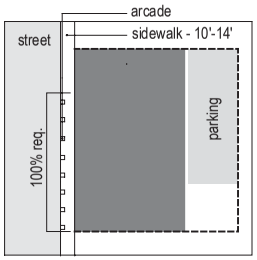


CORE LOTS AND BUILDINGS

Core lots often have buildings that stretch the entire length of the street frontage, helping maintain a continous, uninterrupted street edge. Upper floor setbacks may be used to reduce sun blockage and add variety to the street edge.

Minimum Street Frontage - 100% req.
Building Lot Coverage - 60%
Building Setback - abuts right-of-way
(arcade may encroach ROW)
Entry - Street front
Building Height - 4-10 stories
Building Height/Width Ratio - 1:6
Min Ground Floor Height - 14'

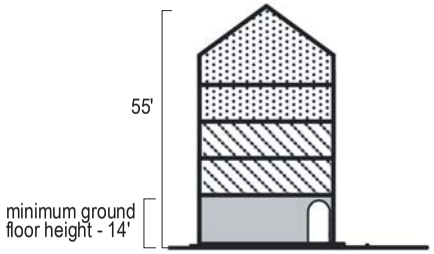


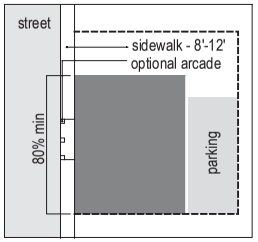


GENERAL LOTS AND BUILDINGS

General lots combine residential, office, and retail space. Building facades should be treated to reflect the difference in use from the ground floor to the top floor.

Minimum Street Frontage - 80% min
Building Lot Coverage - 60%
Building Setback - abuts right-of-way
(arcade may encroach ROW)
Entry - Street front, side yard
Building Height - 2-6 stories
Building Height/Width Ratio - 1:4
Min Ground Floor Height - 14'

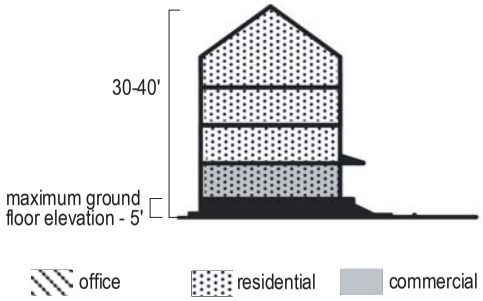


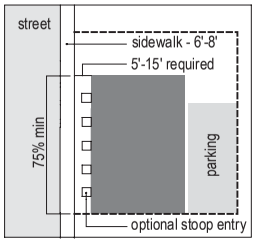


EDGE LOTS AND BUILDINGS

Edge lots break buildings down to a residential scale with setbacks and sideyards. Facades may be continuous to reflect apartments or broken up to reflect townhouses.

Minimum Street Frontage - 75% min
Building Lot Coverage - 50%
Building Setback - 5'-15'
Entry - Street Front, side yard, rear
Building Height - 2-4 stories
Building Height/Width Ratio - 1:3
Maximum Ground Floor Elevation - 5'
(using elevated stoop or doorfront entry)





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B STREETS, PATHS & STOPS

TREASURE COAST, FLORIDA

Streets and paths are the skeleton that shape the center. Effective street design is critical to a community center's success. Streets must provide an efficient and interconnected network for vehicles, bicycles, and pedestrians. Street function and appearance must be balanced with the built environment and create a pleasant and safe experience for all travelers, as well as people whose house and businesses face the street.

To ensure a lively street setting, street networks must avoid concentrating travel on a few large roads. A more diverse fabric provides multiple routes of access and evenly distributes activity to create a more energized urban environment. The dispersal of vehicle loads allows streets to be narrower and treated at a human scale. Streetscape elements provide a softened appearance and enhance the quality and appeal for pedestrians. On-street parking and street trees help define a comfortable pedestrian realm buffered from vehicular traffic. Narrow road widths naturally reduce travel speeds and give greater spatial enclosure to the street environment. Enclosure allows the streetscape to be experienced as an 'urban room,' a space that attracts pedestrians and jumpstarts activity.

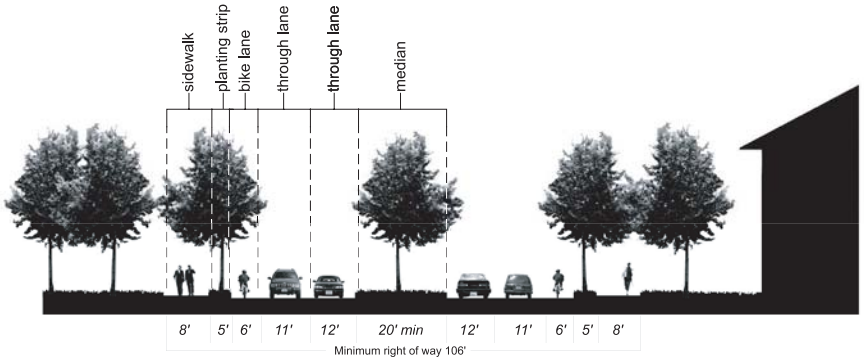
Hierarchy of Streets, Roads, and Paths

MINOR BUS STOP

Minor bus stops provide access to local bus and transit routes. Minor stops may be marked with signage or small shelters. Buses pull to the curb for passenger pick-up and drop-off. Minor stops serve low-speed local and main streets.

MAJOR BUS STOP

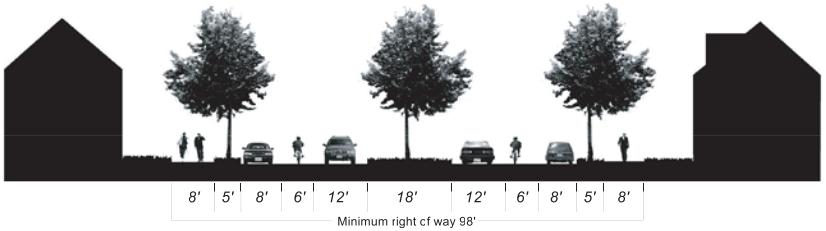
Major bus stops are primary access points for bus and transit. Major stops may be integrated into buildings and the streetscape as stations or kiosks. Dedicated bus and rail lanes seperate transit from vehicular traffic. Often, major stops have two lanes, one for boarding and another for through traffic.



BOULEVARD

Provides multi-lane access to commercial and mixed use buildings. Medians separate slower traffic and parking activity at edges of right of way. Center lanes allow through traffic. Allows for a variety of uses, frontage types, sidewalks, and pedestrian activity. Planting strips and trees provide shade, scale, and aesthetic quality.

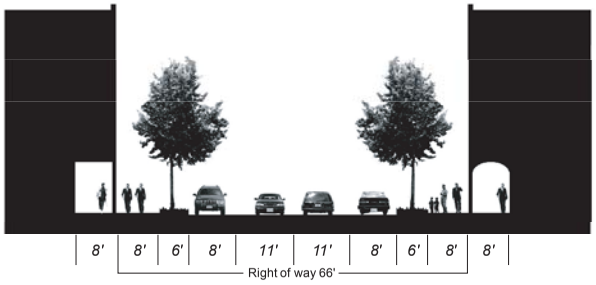
Lanes with marked bike path
Maximum 4 travel lanes
Planting Strips - 6 - 11'
Sidewalks - 8' on each side
Design Speed 35-40 mph (maximum)
Posted Speed 30-35 mph
Requires a 106' Right of Way (ROW)
Drainage - curb and gutter



AVENUE WITH MEDIAN

Provides short medium-speed connections between neighborhoods and core areas, often terminating at prominent buildings or plazas. Avenues may also circulate around squares or neighborhood parks. Planting strips and on-street parking seperate the pedestrian realm from vehicular traffic.

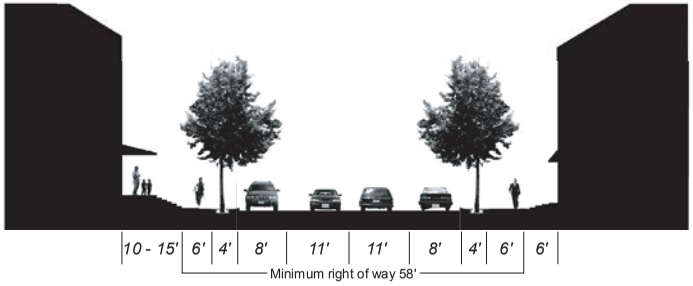
Lanes with striped parking and bike path
Maximum 2 travel lanes
Planting Strips - 5'-7'
Sidewalks - 8' on each side
Design Speed 30 mph (maximum)
Posted Speed 25-30 mph
Requires a 98' Right of Way (ROW)
Drainage - curb and gutter



MAIN STREET

Provides low-speed access to high-density mixed use commercial and residential areas. May serve as focal street within downtown core. Narrow street width creates spatial enclosure, and sidewalk bulb-outs allow short pedestrian crossing distances. Planting strips are replaced with planting wells.

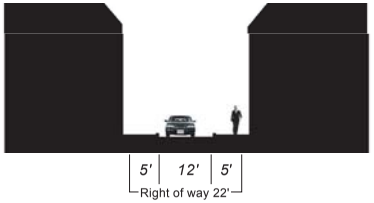
Lanes with striped parking
Maximum 2 travel lanes
Planting Wells - 6'
Sidewalks 8' on each side (w/ 8'-10' arcade)
Design Speed 25 mph (maximum)
Posted Speed 20-25 mph
Requires a 66' Right of Way (ROW)
Drainage - curb and gutter



LOCAL STREET

Provides low-speed access from main streets and avenues to commercial and residential areas. Narrow street width creates spatial enclosure. Stoop and dooyard fronts allow setbacks, buffering residential units from vehicular traffic. Planting wells may contain street trees.

Lanes with striped parking
Maximum 2 travel lanes
Planting Wells - 4'
Sidewalks 6' on each side w/ setback
Design Speed 25 mph (maximum)
Posted Speed 20-25 mph
Requires a 58' Right of Way (ROW)
Drainage - curb and gutter



ALLEY

Provides property access, but is not intended to accommodate through traffic. Often allows access to interior parking. Utilities may be located in alleyways to provide service connections to rear elevations.

Single Lane with no parking
Maximum 1 travel lane
Planting Strips - n/a
Sidewalks 5' on each side
Design Speed 10-15 mph (maximum)
Posted Speed 10 mph
Requires a 20'-22' Right of Way (ROW)
Drainage - n/a

C FRONTAGE

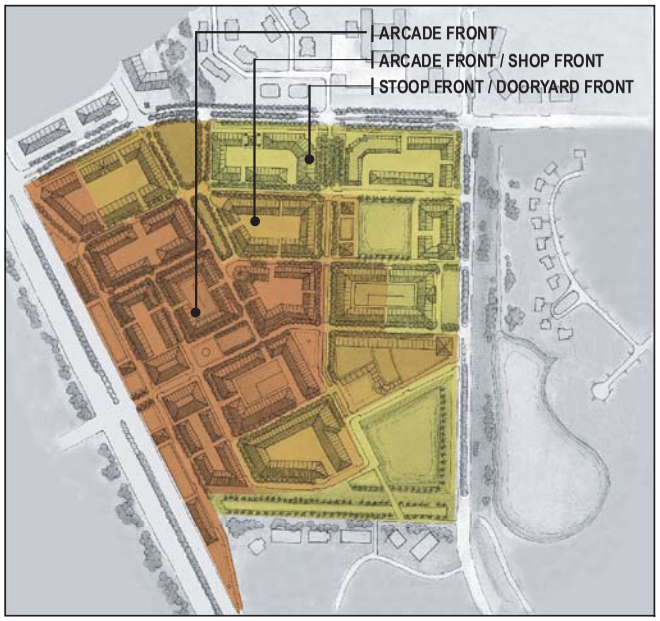
TREASURE COAST, FLORIDA

Building frontages are the interface between the public street and the building interior. Treatment of building fronts should reflect the use of the interior space. Retail frontage (storefront) is intended to draw the public into the interior, while residential frontage (set back with raised porch) protects the privacy of the interior, yet allows the residents to observe and engage with neighbors and passers-by.

The ground level should always be given the most careful consideration. Ground floor heights, facade articulation, setbacks, and entry design have a critical impact on the overall street environment. The typical progression from street to building includes vehicular traffic, on-street parking, landscaping elements and street trees, sidewalk, and building entry. The dimensions and relationships between elements vary depending upon factors including building types and uses, vehicle traffic, and pedestrian traffic.

Buildings in the core should abut the right-of-way to create a significant street presence. Arcade fronts and shop fronts create a shared space between the sidewalk and building. This overlap provides a gradual transition from the busy flow of the street to the building's interior. Minimum ground floor heights ensure that the civic nature of the streetscape is maintained.

The general and edge areas have a higher intensity of residential use. Stoop and dooryard entries are set further back from the street, free from busy vehicular traffic.



FRONTAGE TYPES

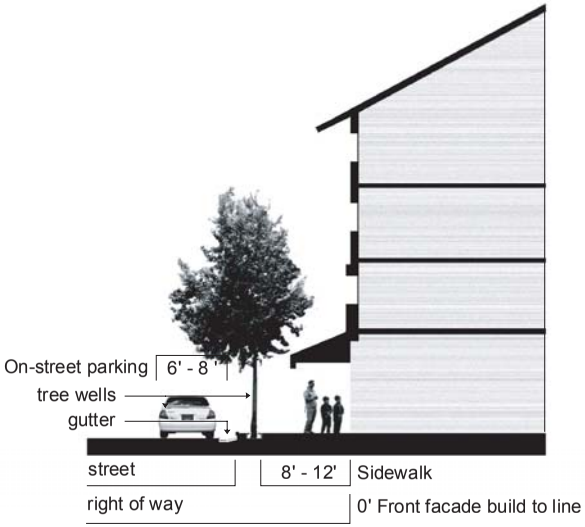
BARRIER FREE DESIGN

New design should proactively address the needs of an evolving population. With an increase in the incidence of disability that accompanies aging, significant numbers of people will be in need of barrier free design. Housing and businesses should incorporate accessible entrances, wider doors, wheelchair ramps, elevators, railings, grab bars and other features that make environments safe. These considerations should be a priority of new development, allowing buildings to seamlessly integrate elements of accessibility and accommodation.

(source: Fair Housing Act Design Manual, US Department of Housing and Urban Development)

(photo: Virtual Courthouse, Larimar County, Colorado)

(photo: centerstage.org, Central Stage, Baltimore, MD)

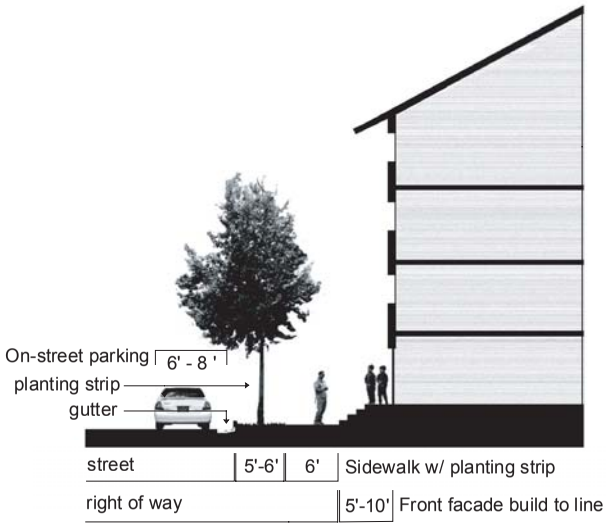


SHOP FRONT

Intended to promote retail activity. Building facade should be at or near the edge of the ROW. Minimum ground floor heights ensure a civic presence at street level. Ground floor facade often has large openings to draw attention inward. Awnings and signage may cantilever over the ROW.

Retail and Mixed Use

Ground Floor Height - 14' min
Build to Line - 0'-10'
Sidewalks - 8'-12'
On-street parking
Planting wells with shade trees
Awnings and cantilevered signage

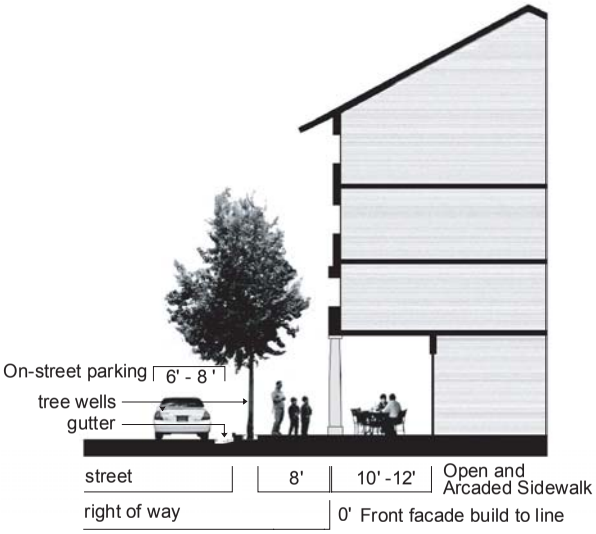


STOOP FRONT

Provides a comfortable interface between the public streetscape and residential units. Elevating the entrance above sidewalk grade helps minimize building set back. The 'stoop' should be oriented towards the street to encourage interaction between residents, neighbors, and passerby. May mix with Shop Fronts.

Residential and Mixed Use

Elevated Ground Floor entry (5' max)
Ground Floor Height - 10' minimum
Build to Line - 5'-10'
Sidewalks - 5'- 6'
On-street parking
Planting strips with shade trees

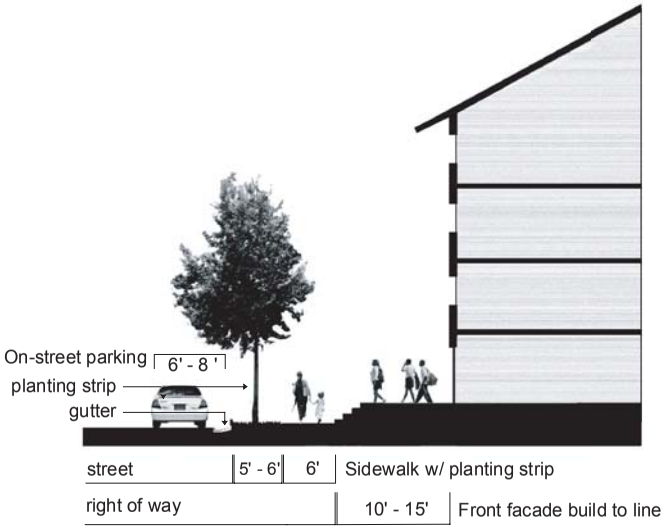


ARCADE FRONT

The building is placed at the edge of the ROW, integrating the sidwalk into the built space. The shared arcade space provides shade and weather protection. Ground floor retail functions can expand into the arcade space. The covered space is an ideal setting for outdoor cafe and restaurant seating. The ultimate intent is to provide continuously covered or shaded walkways throughout the urban core.

Retail and Mixed Use

Ground Floor Height - 14' min
Build to Line - 0'
Sidewalks - 8'
Arcade (covered sidewalk)- 10'-12'
On-street parking
Planting wells with shade trees



DOORYARD FRONT

Paved or landscaped surface between ROW and front facade line provides gradual transition from sidewalk to building. The large transitional space and elevated entrance allow the building to negotiate significant elevational changes. The open surface can be enclosed as a porch or retained as outdoor space.

Residential and Mixed Use

Elevated Ground Floor entry (5' max)
Ground Floor Height - 10' min
Build to Line - 10'-15'
Sidewalks - 5'- 6'
On-street parking
Planting strips with shade trees

E OPEN SPACE

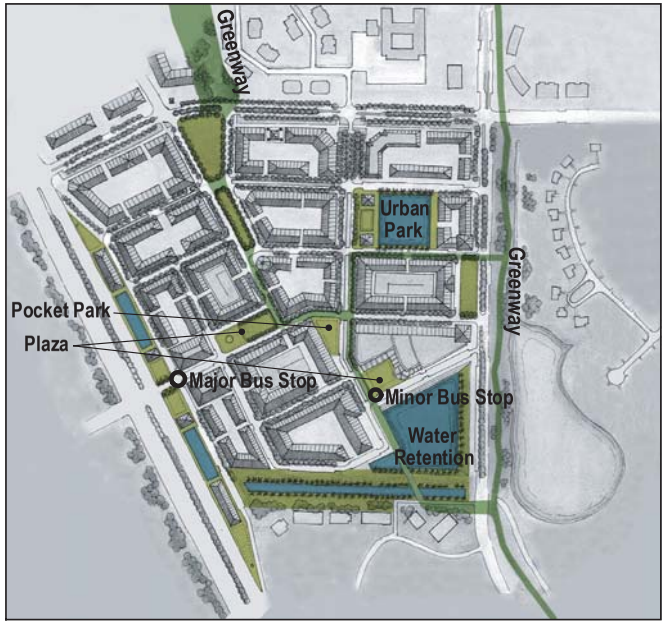
TREASURE COAST, FLORIDA

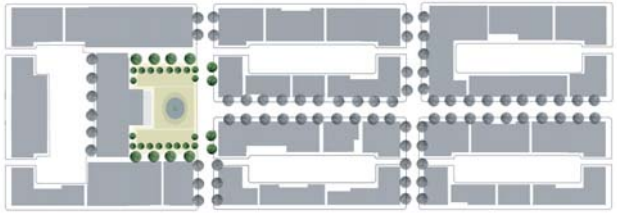
Carefully planned open space is necessary for the richness of community centers and the vitality of the public realm. Types of open space range from public spaces to civic squares. The scale, enclosure, and density of built areas shape the overall themes and functions of open space: formal/informal, active/passive, and open/contained. Formal civic spaces should be located in the core, while recreational facilities, greenways, and neighborhood parks should be strategically placed to serve general and edge areas.

Environmental and natural features, such as wetlands, critical slopes, drainage swales, and vegetation, should be conserved as open public space wherever possible. In urban settings, water retention systems can be rethought and formalized as landscape elements that punctuate design.

Attractive civic spaces in the core, such as canals, ponds, and fountains, promote interaction and comfort. Moveable seating, tables, and multi-functional elements (planters at seat height) allow people to congregate and personally define spaces. Shade trees, greens, and cooling fountains help create a comfortable setting that encourages walking and lingering.

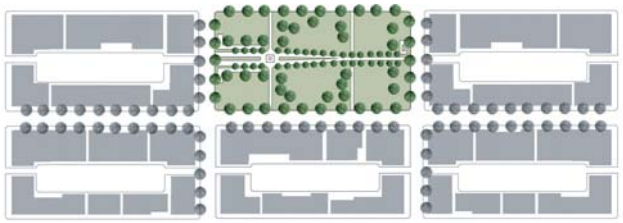
Greenways are an important element in a multi-modal transportation networks. An integrated system of pathways, coordinated with on-road bike lanes and sidewalks provides a variety of ways to get from place to place, better supporting the varied needs of people of all ages and abilities. For example, children can ride their bikes to the ice cream shop using a separated shared-use path; commuters can get to work quickly and conveniently along roadway bike lanes; and both types of cyclists can use regional public transit to access the community center from outlying residential areas.





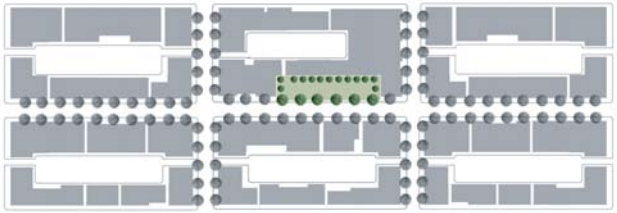
PLAZA

A plaza is the most formal public space and is generally less than half the size of a block located at the intersection of important thoroughfares. It is devoted to civic uses and commercial activity and is surrounded by buildings on all sides. Its landscape is composed primarily of durable pavement and formally planted trees. Significant architectural features, such as fountains, statues, and other vertical elements, help mark the civic prominence of the plaza. Such features are most successful when planned in accordance with a strong visual axis, allowing the plaza to be read from a distance.



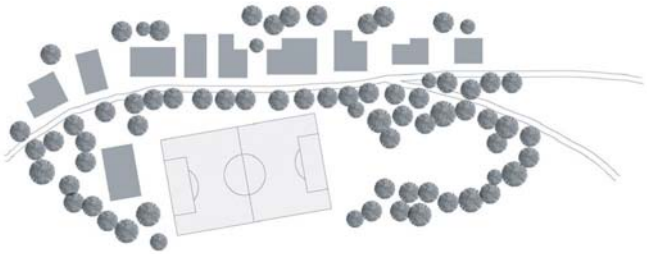
URBAN PARK

An urban park occupies a full downtown block. Its landscape consists of lawns, paved walks, and shade trees. Formal fountains and statues are often incorporated in urban parks. Landscape elements can help organize the park into a series of smaller spaces that offer diverse qualities and uses. Urban parks may be surrounded by civic buildings. In certain instances, civic buildings can accompany the park on a shared block. Urban parks provide an excellent terminus for greenways and bicycle routes originating outside the core. In most cases, it is appropriate to frame the park within a visual axis.



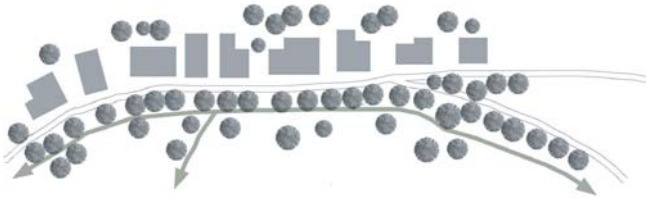
POCKET PARK

A pocket park is a small park that often occupies a 'left over' space between buildings. Pocket parks are block fragments, typically no longer than 100 feet of frontage, that provide vegetation, shade, and open space within densely built areas. Due to their small scale, pocket parks predominantly serve immediatly adjacent buildings and thoroughfares. These small, informal breaks in the dense fabric provide a healthy counter to more prominent civic spaces, such as urban parks and plazas.



RECREATIONAL PARK

A recreational park is an open public space reserved for civic gatherings and recreation. Often, recreational parks are designed around existing natural features. Its landscape consists primarily of grassy areas, paved or unpaved walks, and shade trees. Formal playing fields may be established to serve community needs. The park should be surronded by a mix of residential, commercial, and civic buildings. Recreational parks may also serve nearby institutions. Parking needs and other necessary facilities also must be considered. Recreational parks may range from 3 to 10 acres in size.



GREENWAY

A greenway is a corridor of open space that follows a natural feature, such as a stream valley, floodplain, or swale. It may also follow the route of abandoned roads or paths. It should provide a path for pedestrians and bicyclists. It is important that greenways lead to significant destinations, linking open expanses with urban parks and squares. Landscaping for greenways should be appropriate to the location. Formal landscaping should be incorporated when greenways pass through neighborhood centers and higher-density areas. Screens of trees can be used to protect the privacy of property adjacent to the greenway.

F PARKING

TREASURE COAST, FLORIDA

The proper supply, placement and design of parking is a key element in creating an environment conducive to pedestrians, bicyclists, and transit users, as well as those traveling by car. Standard requirements can lead to an oversupply of parking spaces and open expanses of asphalt. Better management and design strategies can help integrate parking into high-density areas and reduce the demand for parking spaces

Reducing minimum off-street parking requirements and setting average-usage standards instead of peak-usage standards can help spur development. Allowing developers to count on-street parking towards their requirement helps alleviate off-street parking needs. Shared parking allows activities and functions with different peak hours to use the same spaces, significantly cutting down the total spaces needed.

Structured parking is appropriate in high-density areas. Garages reduce the total amount of paved area and can fit well into an urban area, maintaining scale and facade articulation. Wrapping structured parking with liner buildings allows a seamless integration into the urban setting and maximizes the property's revenue potential.

Large lots of surface parking should be designed in relation to the established block size of the surrounding street grid, and selective aisle widths should be widened to the standard street right-of-way requirements. These considerations prepare the site for future infill development, in which surface parking areas are converted into a mix of buildings, garages and streets. Incentives are often needed to offset the high construction cost of parking garages.

STRUCTURED PARKING

Structured parking allows for an efficient use of space in high density areas. Garages eliminate the need for extensive surface parking and help maintain a consistent density within downtown areas. Garages should be located within block interiors with liner buildings or as stand alone structures with careful attention to facade articulation that reflects proportion, rhythm and massing of surrounding buildings.

Parking space dimensions - 9' x 19'
Parking Angles - 45, 60, 75, 90
Aisle width - (1-way traffic) 15'-22'
Maximum ramp slope - 5%
Minimum Vertical Clearance - 8'2"-10'6"

Access is provided by mid-block alleys

SURFACE PARKING

Landscaping is required to break the visual blight of large paved areas. Lots should be placed in the rear of buildings or block interiors to minimize visual impact. Trees provide screening and noise reduction to help ease disruption. Plantings within parking lots also help to reduce storm water runoff, filter air, provide shade, and maintain property values.

Parking space dimensions - 9' x 19'
Parking Angles - 45, 60, 75, 90
Aisle width - (2-way traffic) 26'
Max. uninterrupted spaces - 12
Landscape/plantings - 10% of total area

Planted trees screen lot from road and divide large lots into smaller scale zones

ON-STREET PARKING

On-street parking provides parking spaces within the thoroughfare right-of-way. It contributes to the street environment, helping to buffer pedestrian space from vehicular traffic. Spaces are distributed evenly along the street edge, helping to maintain the visual consistency and appeal of downtown.

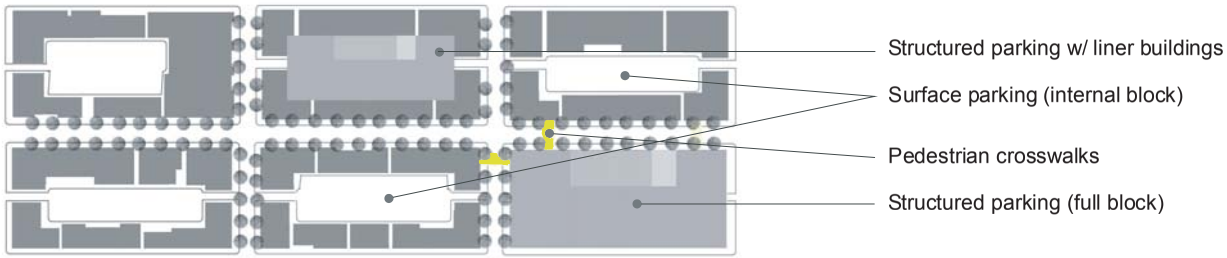
Parking space dimensions - 8' x 20'
Parking Angles - parallel, 30, 45

Trees may be planted to define seperation between spaces

Bulbouts are necessary at pedestrian crossing to limit crossing distances

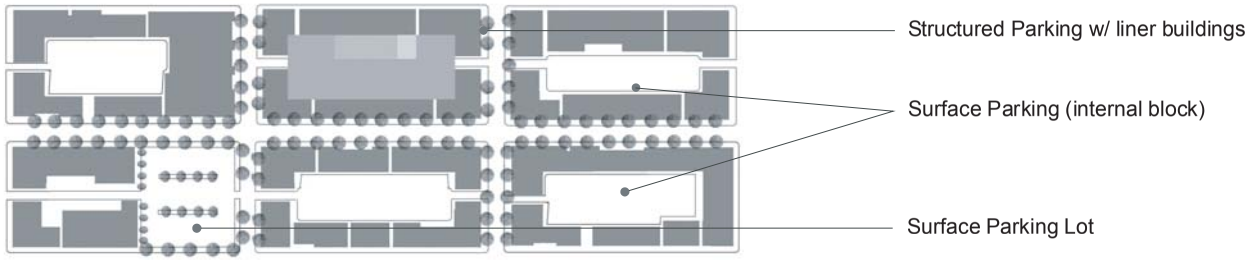
CORE PARKING

Structured parking either internal to the block or adjacent blocks is required, given densities and lot coverage. Densities (FAR > 2.5) should be sufficient to provide the economic justification for structured parking. Structured parking on adjacent lots must provide direct, seamless pedestrian connections to adjacent blocks.



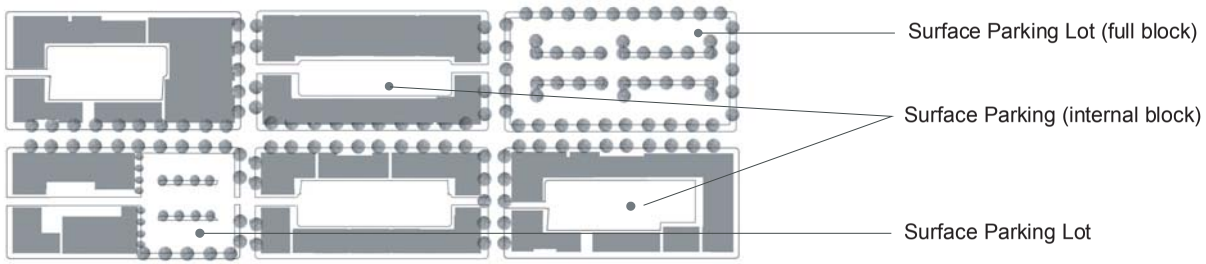
GENERAL PARKING

A combination of structured and surface parking will occur in the general areas. Densities (FAR > 2.0) will be sufficient to economically justify structured parking, as needed. Pedestrian connections between surface lots and adjacent buildings are a priority and must provide direct, seamless connections.



EDGE PARKING

Surface parking is appropriate and adequate in the edge areas. Pedestrian connections between surface lots and adjacent buildings are a priority and must provide direct, seamless connections.



G PHASING

TREASURE COAST, FLORIDA

Redevelopment can be designed to take place over a series of planned phases. Streets, blocks, density, and use may evolve over time to attract businesses, cultural institutions, residents, and visitors. The redevelopment site's existing fabric must be closely analyzed to determine the most appropriate phasing approach. Existing local and regional roads, natural features, leased and vacant buildings, and the density of the surrounding area influence the phasing strategy. Certain portions of the site may be more feasible to develop than others, requiring portions of the site to remain open until the final stages.

A master plan must be prepared to set the framework for the area. It should be developed to a level of detail similar to that of these guidelines. Of most importance is the definition of the street network in the core, general, and edge areas. Equally important are connections to the surrounding area.

Economic and market research are necessary in the master planning process to determine the existing needs of a community and how those needs may change in the future. The phasing process can help a downtown area gradually develop to support growing needs over time. It is important to maintain a balance between commercial, residential, and public spaces. Because they feed one another, each use must expand at a consistent rate.

The first phasing stage should work to establish a strong road network based on the master plan that acts as the framework for each phase. Primary concerns, such as street alignment, street frontage, distribution of uses, and changing land values, should guide growth.

As noted to the right, existing parking areas provide sufficient opportunities for phasing redevelopment. The key to success is balancing parking supply with demand during each phase. This will likely require structured parking and may need public financial support during early phases.

Existing Mall

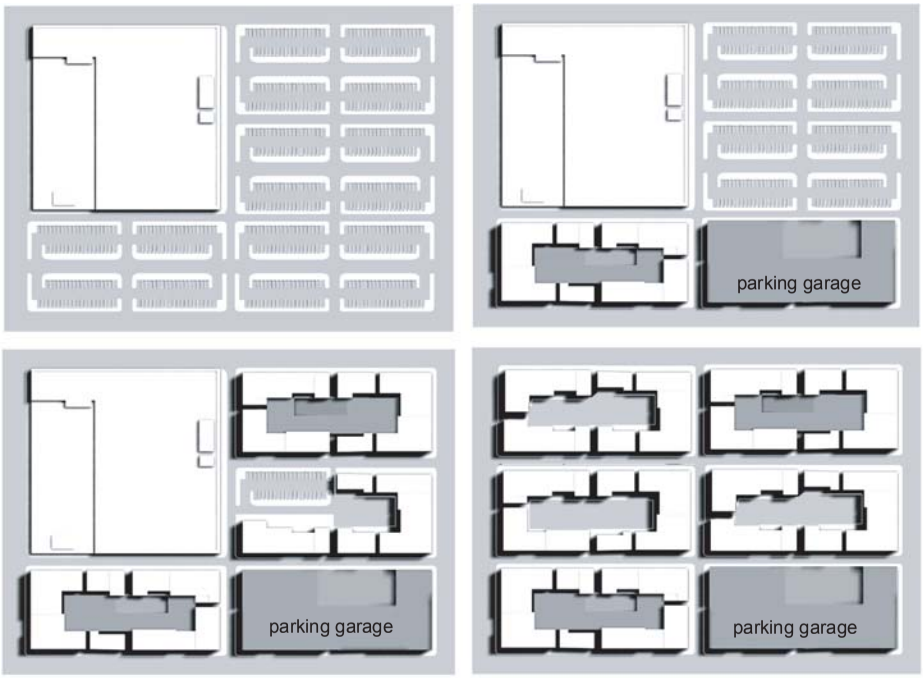
Community Center

PARKING LOT DESIGN:

PLANNING FOR THE FUTURE

Low density retail development is often characterized by wide, uninterrupted expanses of asphalt. Parking design and site layout often limit the opportunity for future development and increased density.

Well planned parking strategies can prepare a site for future growth. Arranging surface parking in accordance with standard block size and orientation allows the site to be developed gradually, lot by lot and block by block. Aisle designs should be consistent with downtown right-of-way dimensions, creating a framework for future road development. Piece by piece, paved open lots may be transformed into a higher-density downtown.

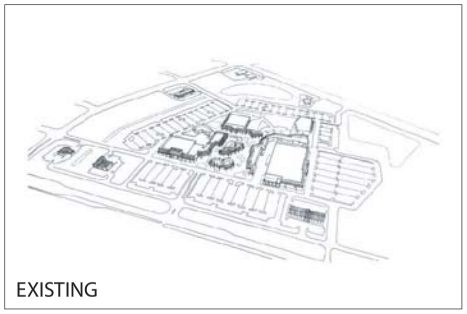


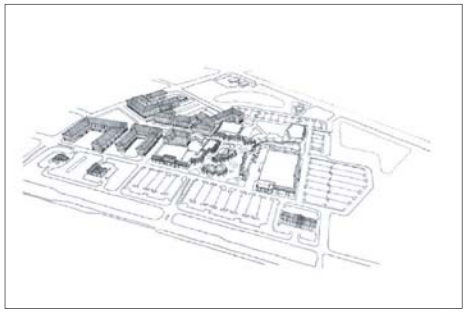
PHASING STRATEGIES:
CASE STUDY

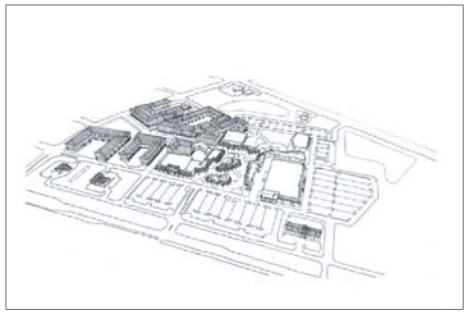
The example below retains a core of existing leasable space as far into the phasing as possible. Maintaining the existing office and retail space allows income to be generated as development occurs around the periphery. The first steps involve a grid of local roads and main streets that unify the site and bind the existing buildings to new development. Residential, commercial, and retail spaces are developed at consistent rates to ensure a balance of uses that support one another. Once the perimeter of the site is fully developed, the existing buildings are replaced with a dense, mixed-use core.

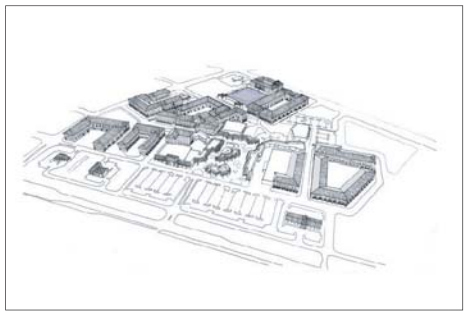
GUIDING PRINCIPLES

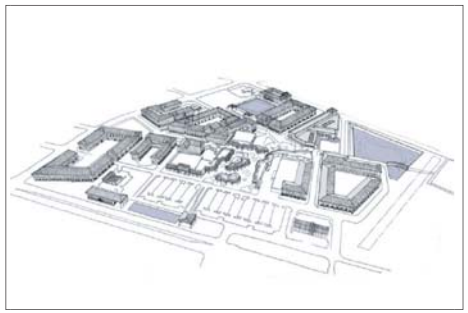
- Definable Edges
- Recognizable Center
- Good Network of Streets
- Walkable, Human Scaled Streets
- Civic Spaces: Public Parks & Open Spaces
- Good Mix of Uses

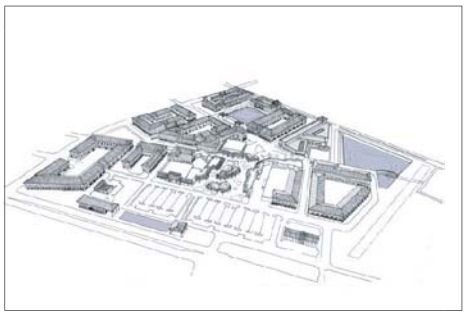


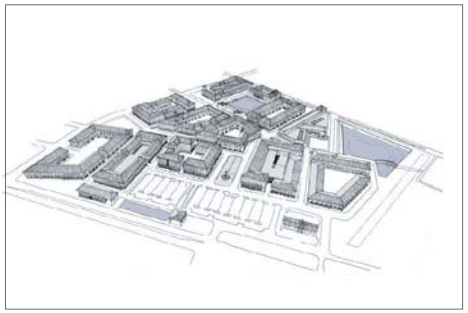


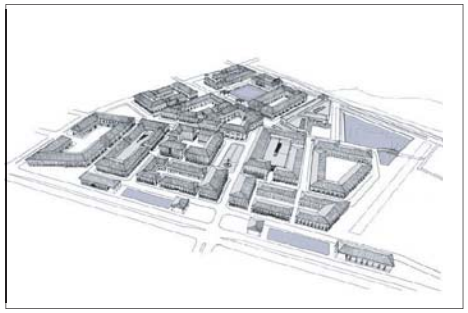












TECHNICAL MEMORANDUM 1: MODEL COMPREHENSIVE PLAN GOALS AND METHODOLOGY DOCUMENTATION FOR COMMUNITY CENTERS

Prepared for:

TREASURE COAST REGIONAL PLANNING COUNCIL

Prepared by:

RENAISSANCE PLANNING GROUP

June 2003

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MODEL COMPREHENSIVE PLAN GOALS AND METHODOLOGY DOCUMENTATION FOR COMMUNITY CENTERS

INTRODUCTION

Phase I of the St. Lucie and Martin County Regional Land Use Study recommends the creation of *Community Centers* to improve mobility by promoting transit, pedestrian, and bicycle travel. These centers are mixed-use, moderate to high-density places that focus intense uses around transit stations and that encourage internal travel by walking and bicycle, rather than automobiles.

Phase II of the Regional Land Use Study focuses on the implementation of the Community Center concept. It provides a number of tools localities can use to designate and regulate Community Centers, including this set of Comprehensive Plan goals, objectives and policies and the comprehensive planning methods documented in subsequent Technical Memoranda.. These goals, objectives, and policies are intended as a template for localities to adapt and refine to suit local conditions. In this manner, an appropriate policy context can be established for planning, land regulation and development review in Community Centers.

MODEL GOALS, OBJECTIVES AND POLICIES

Goal 1: Intent and Designation

Community Centers shall be established to increase transportation options, enhance accessibility, preserve capacity on the roadway network, and ensure the comfort and safety of all users of the transportation system, especially pedestrians, bicyclists, and transit passengers. Community Centers shall be organized around an existing or potential major transit stop, with highest intensities within an eighth-mile of the stop and transit-compatible development within a quarter-mile of the stop.

Objective 1.1

Community Centers shall be implemented by policies and corresponding regulations that address the following areas:

A. A mix of land uses, including residential, commercial, office, educational, recreational, cultural, and civic uses, to provide a range of employment, shopping, service, leisure, and housing opportunities and to support daily activities within walking distance of residences;

B. Appropriate land use densities and intensities within walking distance of transit stops, defined as one quarter-mile;

C. An interconnected network of streets, sidewalks, and bikeways to encourage walking and bicycling, with the lateral separation of transportation modes and traffic calming measures, where needed;

D. Public uses, streets, and squares that are safe, comfortable, and attractive for pedestrians, with adjoining buildings open to the street and designed for interaction; and

E. Parking supply, location, and orientation supportive of pedestrian, transit, automobile, and truck travel modes.

Policy 1.1.1

Community Centers shall be reviewed and adopted as amendments to the Comprehensive Plan and shall be designated on the Future Land Use Map.

Policy 1.1.2

Amendments to the Comprehensive Plan to establish Community Centers shall demonstrate consistency with Objective 1.1.

Objective 1.2

[Local government] shall establish Community Centers in areas where primary priority is given to creating or enhancing a safe, comfortable, and attractive pedestrian environment with convenient transit connections. The transit stop around which the Community Center is designated shall be along an existing or planned regional transit route or at the intersection of two or more local transit routes. In Community Centers, secondary priority will be given to vehicle mobility.

Policy 1.2.1

In conjunction with the Metropolitan Planning Organization, [local government] shall define major transit stops within the context of a larger regional system. Locations for Community Centers can influence the proposed locations of major transit routes or stops.

Policy 1.2.2

Land use, transportation, and capital improvement planning activities of [local government], including the Capital Improvements Program, shall prioritize walking, biking, and other alternative modes of transportation over vehicle mobility.

Policy 1.2.3

To guide capital improvements planning in Community Centers and achieve planning objectives, [local government] shall develop an open space and greenway infrastructure plan to promote connectivity between land uses, integrate pedestrian and bicycle infrastructure, and link Community Centers and key facilities, such as schools and transit stops.

Goal 2: Mix of Land Uses

Community Centers shall be comprised of a mix of land uses, including residential, commercial, office, educational, recreational, cultural, and civic uses, to provide a range of employment, shopping, service, leisure, and housing opportunities within walking distance of residences and transit stops.

Objective 2.1

In Community Centers, diverse land uses will concentrate housing, employment, shopping, services, and other community activities and facilities around the transit station to promote local travel.

Policy 2.1.1

The Future Land Use Map and corresponding policies shall encourage the integration of major commercial centers, grocery stores, drugstores, restaurants, retail, and other residential support services with the transit station to create destinations for transit passengers, pedestrians, and bicyclists.

Policy 2.1.2

The Land Development Code also shall encourage the integration of childcare centers, health care facilities, public services, and other community facilities with the transit facility to create destinations for transit passengers, pedestrians, and bicyclists and to promote accessibility for transit-dependent clients of community and public facilities.

Policy 2.1.3

Proposed changes in future land use designation of properties in a Community Center District shall be evaluated in the context of the requirements of the district and the potential effects of the change on the viability of the district.

Objective 2.2

Infill and redevelopment shall be encouraged and supported to ensure a mix of land uses in Community Centers and to cluster transit-supportive land uses near transit stops.

Policy 2.2.1

In the Capital Improvements Program, prioritization will be given to repair and rehabilitation of existing infrastructure over installation or extension of new infrastructure in Community Centers.

Policy 2.2.2

Land monitoring systems shall be used to compile a database of buildings and parcels that are suitable for development and redevelopment. These systems shall be easily accessible to the public and to the development community to identify infill, brownfield, and grayfield development opportunities.

Policy 2.2.3

Local government shall promote brownfield and grayfield redevelopment using available financial incentives, parcel monitoring and identification, and technical assistance.

Goal 3: Density and Intensity

[Local government] shall ensure land uses designated along major transportation corridors and intersections and at transit stops support public transit with appropriate land use densities and intensities within walking distance of transit stops, defined as one quarter mile.

Objective 3.1

The designation and development of land uses in Community Centers shall promote the concentration of diverse land uses at intensities that support non-automobile travel.

Policy 3.1.1

[Local government] will designate Community Centers on the Future Land Use Map that are likely to generate multimodal activity, based on their concentrations of housing, employment, retail, civic, or other land uses.

Policy 3.1.2

Development projects in designated Community Centers shall be eligible for intensity bonuses of up to 25 percent of the standard threshold for mixing three or more land uses in a project, construction of structured parking, or provision of open space in excess of the applicable Land Development Code requirements.

Objective 3.2

In Community Centers, development and redevelopment projects shall establish transit-supportive residential densities and provide a range of housing types, including affordable housing.

Policy 3.2.1

Minimum density thresholds shall be established in all residential and mixed-use future land use designations in Community Centers.

Policy 3.2.2

Diverse housing types and price ranges shall be promoted in Community Centers using small lot or zero-lot line development, residential uses above ground-floor commercial and office uses, "granny flats", live-work spaces, and other means.

Policy 3.2.3

[Local government] shall revise the Land Development Code and other ordinances to offer density bonuses in Community Centers. Density bonuses of up to 25 percent of the standard threshold will be available to projects, based on their inclusion of affordable housing units.

Goal 4: Interconnectivity and Internal Circulation

Community Centers shall feature an interconnected network of streets, sidewalks, and bikeways to encourage walking, bicycling, and access to transit.

Objective 4.1

Connectivity between Community Centers and between the land uses in individual Community Centers shall be a focus of planning and capital investment in a Community Center.

Policy 4.1.1

Mixed use, traditional neighborhood development, and transit-oriented zoning districts shall be implemented in Community Centers to facilitate a mix of interconnected land uses that support transit.

Policy 4.1.2

Land Development Code design and performance standards shall promote a mix of land uses within structures or blocks, narrow local streets for traffic calming, wide sidewalks, and the consolidation or absence of surface parking lots in Community Centers.

Objective 4.2

Infrastructure development in Community Centers shall enhance the interconnectivity of the Community Center.

Policy 4.2.1

In Community Centers, grid street patterns with maximum block lengths shall be continued or established to enhance connectivity between land uses.

Policy 4.2.2

Cul-de-sacs and dead-ends will be discouraged in Community Centers.

Policy 4.2.3

The Land Development Code shall require access management strategies in Community Centers, such as joint driveways and cross-access easements, to minimize individual curb cuts and to enhance connectivity between parcels and land uses.

Policy 4.2.4

Site plans, subdivision plans, and development plans shall depict stub-outs to adjacent parcels to accommodate future development or redevelopment activity. Where stub-outs are adjacent to parcels for which site plans, subdivision plans, and development plans are under review, these plans shall depict connections to existing stub-outs.

Objective 4.3

In a Community Center, the Comprehensive Plan, zoning districts, Land Development Code, and other plans and policies shall focus on accommodating a spectrum of transportation modes that support the movement of people and goods, with a priority on the safety and mobility of pedestrians, bicyclists, and transit users.

Policy 4.3.1

In a Community Center, priority will be given to the pedestrian over the automobile by designing street widths, on-street parking, landscape buffers, crosswalks, the lateral separation of transportation modes, and other facilities and amenities for the comfort of pedestrians. This also shall involve the designation of appropriate traffic speeds.

Policy 4.3.2

Site plans, preliminary subdivision plans, and development plans for new development and redevelopment in a Community Center shall be required to depict existing and proposed bicycle and pedestrian access to adjacent properties, existing sidewalks and trails, and transit stops.

Policy 4.3.3

For new development and redevelopment in a Community Center, sidewalk connections shall be required to the principal entrance of each building, to existing sidewalks, and to transit stops. Nonresidential development sites with multiple buildings shall provide sidewalks that connect all buildings at their principal entrances.

<u>Goal 5: Open Space and Stormwater Retention</u>

Community Centers shall feature public uses, streets, and squares that are safe, comfortable, and attractive for pedestrians, with adjoining buildings open to the street and designed for interaction.

Objective 5.1

Open space standards for Community Centers shall be adopted to support an integrated, multimodal transportation system and to encourage pedestrian activity.

Policy 5.1.1

The Land Development Code shall reinforce the importance of pedestrian-oriented design and public space in a Community Center by requiring building "streetwalls" with uniform setbacks and building heights, diverse building textures and facades, and different building scales to encourage a pedestrian-oriented environment in Community Centers.

Policy 5.1.2

Public space in Community Centers shall be provided to encourage pedestrian activity. Public space is defined as parks, plazas, and areas with seating, lighting, decorative pavers, fountains, landscaping or other pedestrian amenities.

Policy 5.1.3

Public space shall be provided on five percent of a development or redevelopment site, excluding buffers and pedestrian connections. Shared parking and shared stormwater facilities shall be eligible to meet this standard at the discretion of the zoning administrator.

Objective 5.2

Stormwater facilities and infrastructure in Community Centers shall be designed in a manner that contributes to connectivity, pedestrian orientation, and appropriate site design.

Policy 5.2.1

To the degree possible, [local government] shall encourage the following stormwater management practices for Community Centers:

- Preserve mature tree canopy and existing trees;
- Incorporate landscaped stormwater facilities into open space network;
- Avoid or discourage planting of non-native invasive plants identified on the U.S. Department of Agriculture Forest Service Southern Region's list titled "Invasive Exotic Plant Species of Management Concern"
- Use xeriscape principles to conserve water; and

- Limit the amount of impervious surfaces, to the extent possible, using permeable paving, alternative driveway surfaces, shared driveways, alternative infrastructure standards, and other means.

Policy 5.2.2

On-site stormwater management facilities on individual parcels in Community Centers shall be discouraged in favor of joint or district-wide stormwater facilities to minimize the disruption of pedestrian activity and the streetscape with multiple individual stormwater facilities.

Policy 5.2.3

Provision of joint or district-wide stormwater facilities in Community Centers shall be encouraged by appropriate fiscal and regulatory incentives, including investment in a master planning process, from [local government].

Policy 5.2.4

The Land Development Code shall be reviewed to determine if various best management practices for stormwater retention, such as shared driveways, naturalized swales, reduced or porous paving, and Low Impact Development guidelines, are appropriate for Community Centers to maximize the use of land and to minimize the need for stormwater retention.

Policy 5.2.5

Stormwater detention and retention ponds in Community Centers shall be designed as open space amenities with landscaping to the extent feasible.

Policy 5.2.6

Within individual development projects in Community Centers, lot sizes, setbacks, and impervious surface area requirements may be reduced in proportion to the amount of common or public open space provided, as determined appropriate by the zoning administrator based on applicable Land Development Code provisions.

Goal 6: Parking

Parking supply, location, and orientation in Community Centers shall be supportive of pedestrian, transit, automobile, and truck travel modes.

Objective 6.1

Parking supply, location, and orientation in Community Centers shall support pedestrian safety and mobility.

Policy 6.1.1

Design guidelines for Community Centers shall include adequate pedestrian and bicycle amenities, including lateral separation of transportation modes and bicycle parking.

Policy 6.1.2

In the Land Development Code, a network of pedestrian connections shall be required in parking lots for safety and connectivity.

Objective 6.2

Transit modes shall be supported in Community Centers by the design and orientation of parking facilities.

Policy 6.2.1

Design guidelines for Community Centers shall include the lateral separation of automobiles from pedestrian paths connecting transit facilities for the safety and comfort of transit users.

Policy 6.2.2

Parking facilities in Community Centers shall include transit amenities, such as bus pullout bays, benches, and protection from inclement weather.

Objective 6.3

Travel by automobile shall be supported in Community Centers by the district's parking supply and its location and orientation.

Policy 6.3.1

Existing parking ratios in the Land Development Code shall be reviewed to determine if lower parking ratios are feasible in Community Centers based on the availability of transit service, current local and national data on parking generation rates and ratios and the availability of curbside and shared parking.

Policy 6.3.2

Review of existing parking ratios shall address the feasibility of maximum parking standards, shared parking, reductions in the number of required spaces for properties near transit stops, and other innovative concepts to implement the goals of the Community Center.

Policy 6.3.3

The Land Development Code shall encourage the sharing of off-street parking between land uses by reducing the total number of parking spaces required by fifteen percent in Community Centers. Additional parking reductions may be available upon submittal of a parking study by a qualified transportation engineer demonstrating no adverse impacts to the transit area and surrounding communities from parking reductions, as well as consistency with shared parking methodologies available from the Urban Land Institute. The zoning administrator must approve any additional proposed reductions in parking.

Policy 6.3.4

[Local government] shall encourage the development of on-street parking to reduce off-street parking supplies and to buffer pedestrians from roadways.

Policy 6.3.5

[Local government] shall encourage the development of common parking structures or lots that are located away from transit stops, yet within a quarter mile of buildings. Structures and lots cannot be larger than the maximum block length.

Objective 6.4

Parking facilities in Community Centers shall support truck travel and freight movements in the supply, location, and orientation of parking.

Policy 6.4.1

Parking facilities shall be designed with adequate spacing and turning radii for truck and freight movement.

Policy 6.4.2

Parking facilities shall incorporate designated spaces for freight loading and unloading in a manner that balances the needs of truck and pedestrian modes.

Goal 7: Incentives and Implementation

[Local government] shall provide appropriate fiscal, regulatory, and technical assistance incentives to promote public-private partnerships for implementation of Community Centers.

Objective 7.1

[Local government] shall provide for master planning in each Community Center to address the functions of the district and to note opportunities for incentives.

Policy 7.1.1

To implement Community Centers, [local government] shall prepare a master plan for each Community Center that addresses building and site design, the street system, parking provision and location, stormwater facility needs and location, open space provision and location, and connectivity.

Policy 7.1.2

The master plan also will address opportunities and locations for shared infrastructure, implementation steps, financing strategies, and available resources, including [local government] incentives and infrastructure commitments.

Objective 7.2

To support the implementation of Community Centers, [local government] may designate the Center as a Multimodal Transportation District and establish multimodal level of service standards within the district that primarily rely on modes of transportation other than vehicles.

Policy 7.2.1

Level of service standards shall be justified by an analysis demonstrating that existing and planned community design standards, corresponding capital improvements, and the availability and frequency of transit service provide an adequate level of mobility within the Multimodal Transportation District.

Policy 7.2.2

The level of service analysis for the Multimodal Transportation District shall be based upon professionally accepted multimodal level of service methodologies and shall consider any impacts to the Florida Intrastate Highway System.

Policy 7.2.3

The level of service analysis for the Multimodal Transportation District shall demonstrate that the capital improvements required to promote community design are financially feasible over the development or redevelopment timeframe for the district and that community design features within the district provide convenient interconnection for a multimodal transportation system.

Policy 7.2.3

Adopted multimodal level of service standards for the Multimodal Transportation District, which shall be incorporated into the Concurrency Management System, are as follows:

[Insert specific standard by mode]

Objective 7.3

To the extent feasible, [local government] shall provide fiscal incentives to leverage public and private infrastructure funds and as a development and redevelopment incentive.

Policy 7.3.1

Where feasible, [local government] shall participate in financial aspects of transit area planning in Community Centers using land assembly, bond issuance, low-interest loans, loan guarantees, permitting fee waivers, market studies, joint development projects, and other public-private partnerships.

Policy 7.3.2

Where feasible, [local government] shall participate in the planning and provision of shared infrastructure, such as parking lots and stormwater facilities, in Community Centers using public-private partnerships.

Policy 7.3.3

[Local government] shall explore the feasibility of programs for payment in lieu of on-site infrastructure provision required by the Land Development Code to enable the provision of shared infrastructure in Community Centers.

Objective 7.4

In Community Centers, [local government] shall provide various regulatory and technical assistance incentives to promote transit-oriented development and redevelopment.

Policy 7.4.1

[Local government] shall revise administrative procedures to provide regulatory incentives in the form of expedited permitting and development reviews for development and redevelopment projects in the Community Center that are consistent and compatible with the policy goals and design guidelines for the district.

Policy 7.4.2

As an incentive for development and redevelopment in Community Centers, [local government] will provide outreach and assistance with implementation to development interests and the public. Public involvement activities may include use of illustrated development codes, Web sites, public meetings, presentations to homeowners' and community associations, presentations to businesses and industry groups, newsletters, and other technical assistance.

Objective 7.5

As a regulatory incentive in Community Centers, performance zoning and flexible zoning shall be implemented to regulate development by impacts and building type, rather than by type of use.

Policy 7.5.1

Zoning in Community Centers that regulates development by impacts and building type shall address scale, parking standards, and pedestrian accessibility, as well as monitoring the impacts of changing building uses on parking, noise, and related items.

Policy 7.5.2

To the extent that development projects provide joint parking and stormwater facilities in Community Centers, these facilities shall be credited toward the mandatory open space provisions of the Land Development Code to provide regulatory flexibility.

Objective 7.6

Community Centers shall be implemented using capital improvements and capital improvements planning as an incentive for development and redevelopment.

Policy 7.6.1

In Community Centers that are designated Multimodal Transportation Districts, development permits may rely upon all capital improvements related to community design that are financially feasible over the development or redevelopment timeframe for the center, without regard to the period of time between development or redevelopment and the scheduled construction of the capital improvements (Section 163.3180(15)(c), Florida Statutes). A determination of financial feasibility shall be based upon currently available funding or funding sources that could reasonably be expected to become available over the planning period.

Policy 7.6.2

Impact fees or local access fees may be reduced for development within Community Centers. Fee reductions must be supported by an analysis conducted by a transportation engineer and consistent with professionally accepted methodologies. The analysis must demonstrate the reduction of vehicle trips per household or vehicle miles of travel expected from the development pattern planned for the district. Applications for impact fee or local access fee reductions must be approved by the [City Council/Board of County Commissioners].

Objective 7.7

In Community Centers, [local government] shall identify and implement financial incentives to facilitate infill development and redevelopment in targeted areas, such as brownfields, grayfields, and around existing or planned transit stops.

Policy 7.7.1

[Local government] shall focus resources and investment on revitalizing existing neighborhoods and infrastructure in Community Centers to ensure housing diversity and affordability and to promote community redevelopment near transit service.

Policy 7.7.2

[Local government] shall implement procedures that give Community Centers priority for public investments during capital improvements planning, especially in support of land purchase and assembly or other public or private redevelopment efforts in Community Centers.

TECHNICAL MEMORANDUM 2: VILLAGE GREEN MASTER PLAN

Prepared for:

TREASURE COAST REGIONAL PLANNING COUNCIL

Prepared by:

RENAISSANCE PLANNING GROUP

June 2003

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VILLAGE GREEN MASTER PLAN

INTRODUCTION

Phase I of the St. Lucie and Martin County Regional Land Use Study recommends the creation of Community Centers to improve mobility by promoting transit, pedestrian, and bicycle travel. These centers are mixed-use, moderate to high-density places that focus intense uses around transit stations and that encourage internal travel by walking and bicycle, rather than automobiles.

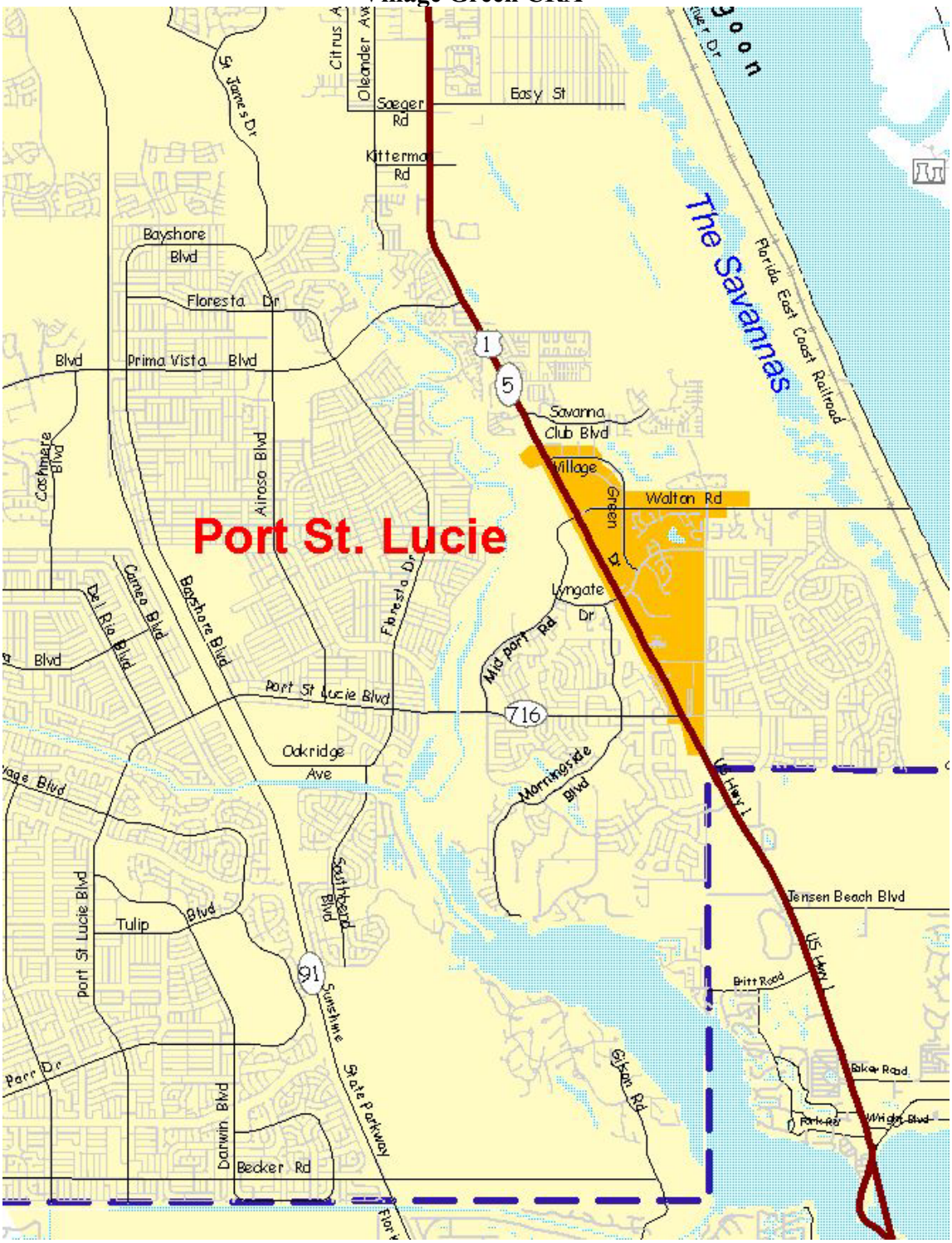
Phase II of the Regional Land Use Study focuses on the implementation of the Community Center concept. It provides a number of tools localities can use to designate and regulate Community Centers. The Village Green Master Plan highlighted in this Technical Memorandum is a demonstration project requested by the study's steering committee to provide a "real world" example of how a master planning process would work for a site within a Community Center. The Master Plan also provides an example of the manner in which an existing suburban site could be transformed into a walkable, transit-oriented community.

The demonstration project site is in the Village Green Community Redevelopment Area (CRA) designated by the City of Port St. Lucie (Figure 1). Existing development in the CRA includes a mix of land uses and a suburban development pattern. The City of Port St. Lucie is interested in creating a downtown development pattern within the CRA that is consistent with the Community Centers concept. A developer is interested in redeveloping a mixed-use commercial center, known as the "City Center", and is willing to implement a downtown development pattern.

The Treasure Coast Regional Planning Council (TCRPC) took the lead on preparing the Master Plan. The process began with developer and stakeholders interviews to determine what types of uses and designs were feasible for the site. A five-day charrette followed, with input at key steps by a market feasibility expert to develop a staging plan. A presentation of the site plan was made to the steering committee on the fifth day of the charrette. The entire master planning process was completed in two weeks.

This Technical Memorandum summarizes the presentation of the Master Plan. A Power Point presentation that provides details of the Master Plan is available from the TCRPC.

Figure 1
Village Green CRA



VILLAGE GREEN MASTER PLAN

Figure 2 is an aerial picture of the City Center site, located at the intersection of US 1 and Walton Road near the northwest corner of the Village Green CRA. As shown in Figure 2, a cluster of buildings is located at the center of the site, surrounded by parking, water retention areas, and open space.

The first step in the Master Plan charrette was an existing conditions analysis that focused on defining the natural systems around the site and potential connections to the site (Figure 3). The analysis found the opportunity to connect natural wetland systems in and around the site, shown in green on Figure 3, and several opportunities for connecting the site with surrounding developments, shown in orange in Figure 3. The open space and path systems defined by the existing conditions analysis provided a framework for the site's development plan.

The next step for the charrette team was developing the following principles that helped guide the design:

- Definable edges
- Good network of streets
- Walkable, human-scaled streets
- Recognizable center
- Public parks and open spaces
- Civic spaces
- Good mix of uses
- Unique identity
- Memorable buildings

The street network and building layouts were developed using the existing conditions framework and the design principles. Within this overall development design, open space, parking and water retention details were added to create the final Master Plan (Figure 4).

Figure 2 – Existing City Center Site

Figure 3 – Natural Systems and Connections

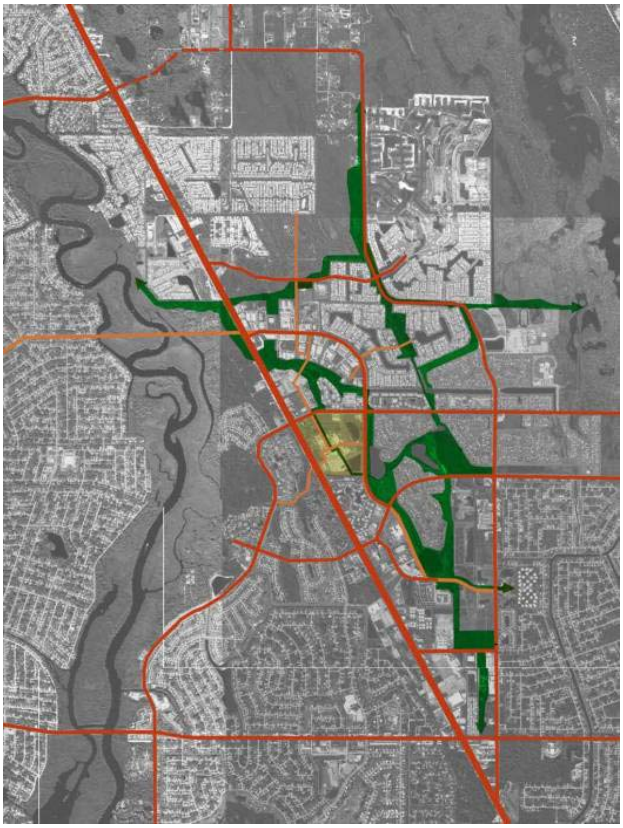


Figure 4 -- Village Green Master Plan

The most intense development is in a core area around a transit station near the site's entrance from US 1 (Figures 5 and 6). Building heights in this area range from four to six stories, and the block lengths are close to 200 feet. Office and retail uses predominate in the mix of uses envisioned in the core area, with residential units in the top floors of buildings.

A public building with a plaza that features one of the site's retention areas is located east of the core area. More suitable than the existing retention areas, new retention areas have "hard edges" more compatible with the compact, walkable pattern of the plan. A mid-street retention area, shown in Figure 7, is another way of integrating storm water retention requirements into the design of compact development.

Development to the north and northeast of the core area is less intense, with building heights from two to four stories (Figure 8). The development intensity is reduced for a transition from

the core area to the low-density development surrounding the site. Block lengths are slightly longer at 300 feet, and the land use mix becomes more residential in these areas.

Parking is provided either on street or within blocks to enhance the compact, walkable design. Structured parking is shown in dark orange on the master plan, and surface parking is shown in tan. Public plazas and parks are located throughout the site, shown in green on the master plan, to create public spaces.

Figure 5 – Transit Station Area on US 1

Figure 6 -- Street Scene from Core Area

Figure 7 – In-Street Retention

Figure 8 – Transition Area and Public Plaza

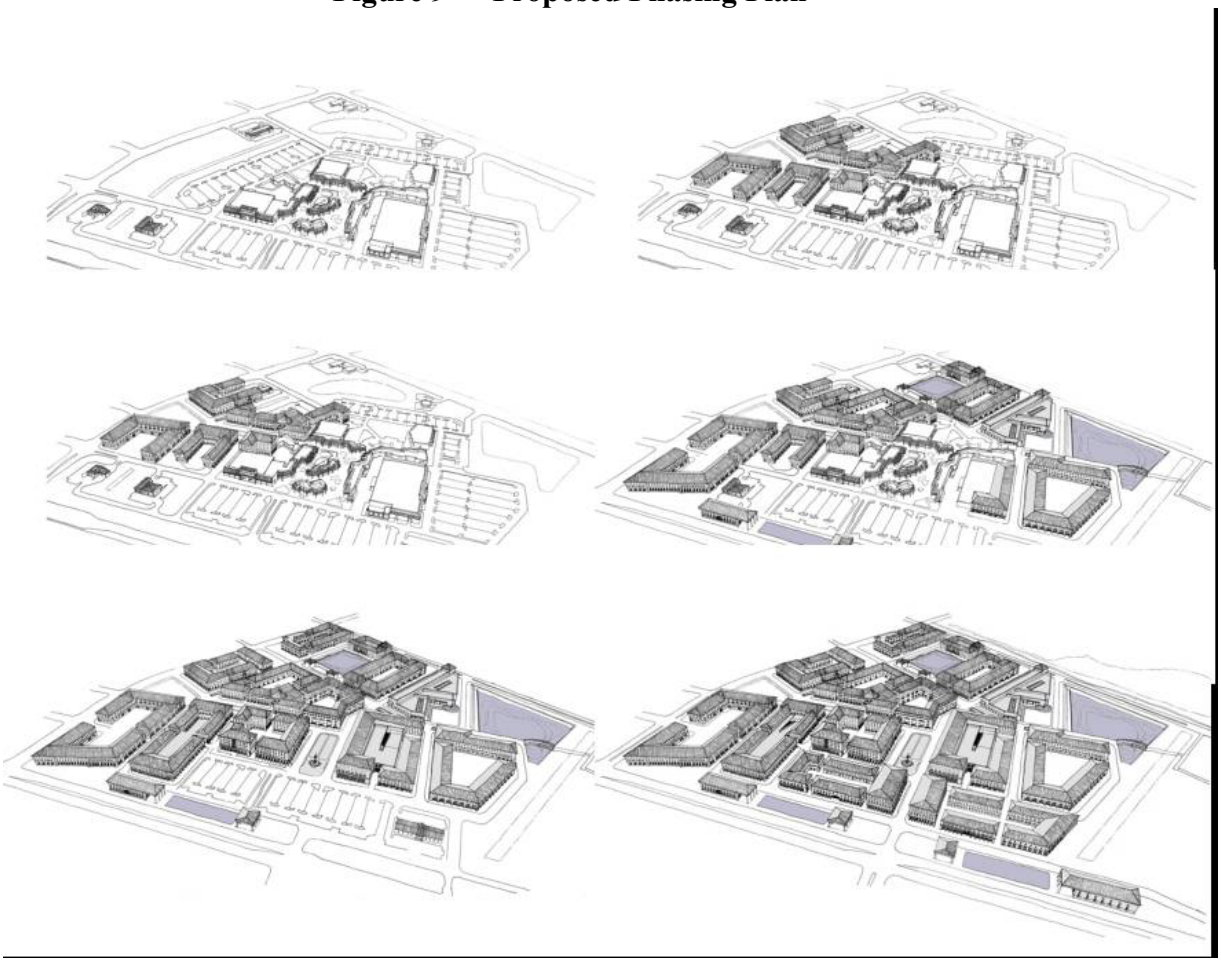
Phasing Plan

During the design charrette, the design team met with the developer and a market feasibility consultant to identify market based phasing strategies for the site. The phasing steps are shown in Figure 9.

The existing buildings clustered at the center of the site currently are producing income, and the developer requested those buildings be preserved until the establishment of other on-site

revenue options. Therefore, the phasing strategy focused on redeveloping the parking and water retention areas on the fringe of the site first. The phasing plan recommends developing areas to the north and east of the existing buildings before developing along US 1. Land along US 1 is the most highly visible and most marketable part of the property, and its early development could slow development of the rest of the property.

Figure 9 -- Proposed Phasing Plan



SUMMARY

The Village Green Master Plan is a demonstration project requested by the Martin and St. Lucie County Regional Land Use Plan steering committee to illustrate the transformation of a suburban development pattern to the more compact, mixed-use, and transit friendly pattern of the

Community Center concept detailed in Phase I of the study. The Master Plan is for a site in the Village Green Community Redevelopment Area of Port St. Lucie that the city and developer envision as a downtown area, with the same development patterns and features proposed for Community Centers.

The master planning process began with interviews with the developer and other stakeholders to determine what types of uses and patterns are feasible on the site. A five-day design charrette followed to produce a detailed Master Plan for the site, a market based phasing strategy, and design perspectives. The entire process required no more than two weeks to complete.

The Master Plan effectively demonstrated how a site could be redeveloped into a transit and pedestrian-oriented Community Center. It also demonstrated how the planning process can be done quickly and cost effectively. Information and concepts from the Master Plan were invaluable inputs to all of the tools for Community Center implementation developed during the Phase II study.

TECHNICAL MEMORANDUM 3: EXISTING CONDITIONS ANALYSIS FOR THE VILLAGE GREEN MULTIMODAL TRANSPORTATION DISTRICT

Prepared for:

TREASURE COAST REGIONAL PLANNING COUNCIL

Prepared by:

RENAISSANCE PLANNING GROUP

June 2003

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MULTIMODAL TRANSPORTATION DISTRICT – EXSITNG CONDITIONS ANALYSIS

INTRODUCTION

This document describes the analysis conducted by the Treasure Coast Regional Planning Council to demonstrate how a Multimodal Transportation District (MTD) can be developed for the Village Green Community Redevelopment Area (CRA). MTDs are intended to guide quality development and redevelopment activity and improve personal mobility and accessibility for the overall transportation system, including automobiles bicycles, pedestrians and transit. Within a MTD, priority is given to non-auto travel modes, such as walking, to promote compact, pedestrian-friendly development and redevelopment in appropriate areas. Secondary importance is assigned to automobile mobility within these districts.

The Florida Department of Transportation (FDOT) has developed a methodology for measuring the quality of service for bicyclists and pedestrians along roadway segments, as required per Section 163.3180(15)(a), Florida Statutes. The level of service methodology proposed herein is based on the FDOT research, as outlined in Transportation Research Board (TRB) Paper No. 01-3084 "Multi-Modal Level of Service (LOS) Analysis at a Planning Level."

The multimodal analysis conducted for the Village Green MTD used the following seven steps:

1. **Collect data** Data required for the ART-PLAN and quality of service (QOS) analysis were collected for the Village Green CRA.

2. **Analyze multimodal levels of service** FDOT's ART-PLAN 2000 was used to determine the existing unadjusted level of service (LOS) for autos, bicycles and pedestrians in the CRA.

3. **Analyze quality of service** Factors that influence accessibility for all modes, such as urban design that promotes walkability, were measured.

4. **Adjust multimodal LOS** The quality of service factors from the third step were used to adjust the ART-PLAN LOS developed in the second step.

5. **Determine maximum achievable LOS** Potential transportation improvements and urban design requirements, such as those developed from the Village Green Master Plan were analyzed using LOS and QOS to help determine an appropriate LOS target for the district.

6. **Determine multimodal LOS standards** LOS standards were set based on the analysis in the fifth step.

7. **Recommend MTD improvements and estimated costs** A final set of improvements was defined based on the multimodal LOS standards set in the sixth step.

This memorandum documents the existing conditions analysis for the Village Green MTD, comprised of the first four steps. The analysis provides the context for identifying the maximum achievable LOS based on recommended improvements in the MTD as the basis of a LOS standard.

DATA COLLECTION

Data collection began with a field inventory of roadways and land use/development characteristics within the MTD to determine existing operating conditions for autos, bicycles and pedestrians. This information was augmented with data collected from a number of sources, including city and county traffic engineering and planning departments and FDOT. To fill the data gaps, several additional roadway traffic counts were taken during January 2003.

The data collected were compiled into a multimodal characteristics database to calculate existing LOS for auto and non-auto modes. The "*unadjusted*" LOS was calculated using these data and the FDOT ART-PLAN 2000 model for bicycles, pedestrians and automobiles. This unadjusted LOS then was refined using the steps described in the Quality of Service section of this report to determine the multimodal LOS for each roadway segment in the MTD.

Roadway Segmentation

The MTD boundaries proposed are those used to define the Village Green CRA (Figure 1). To conduct an area-wide multimodal LOS analysis using the ART-PLAN 2000 program, roadways in the CRA were divided into manageable segments. The segmentation for the arterials and collector streets in the Village Green CRA was based on the methodology recommended in the FDOT LOS analysis handbook. Table 1 defines the segments used for the LOS analysis. Data were then collected to describe the physical and operational characteristics of each segment.

Figure 1 – Village Green Community Redevelopment Area (CRA) Boundaries

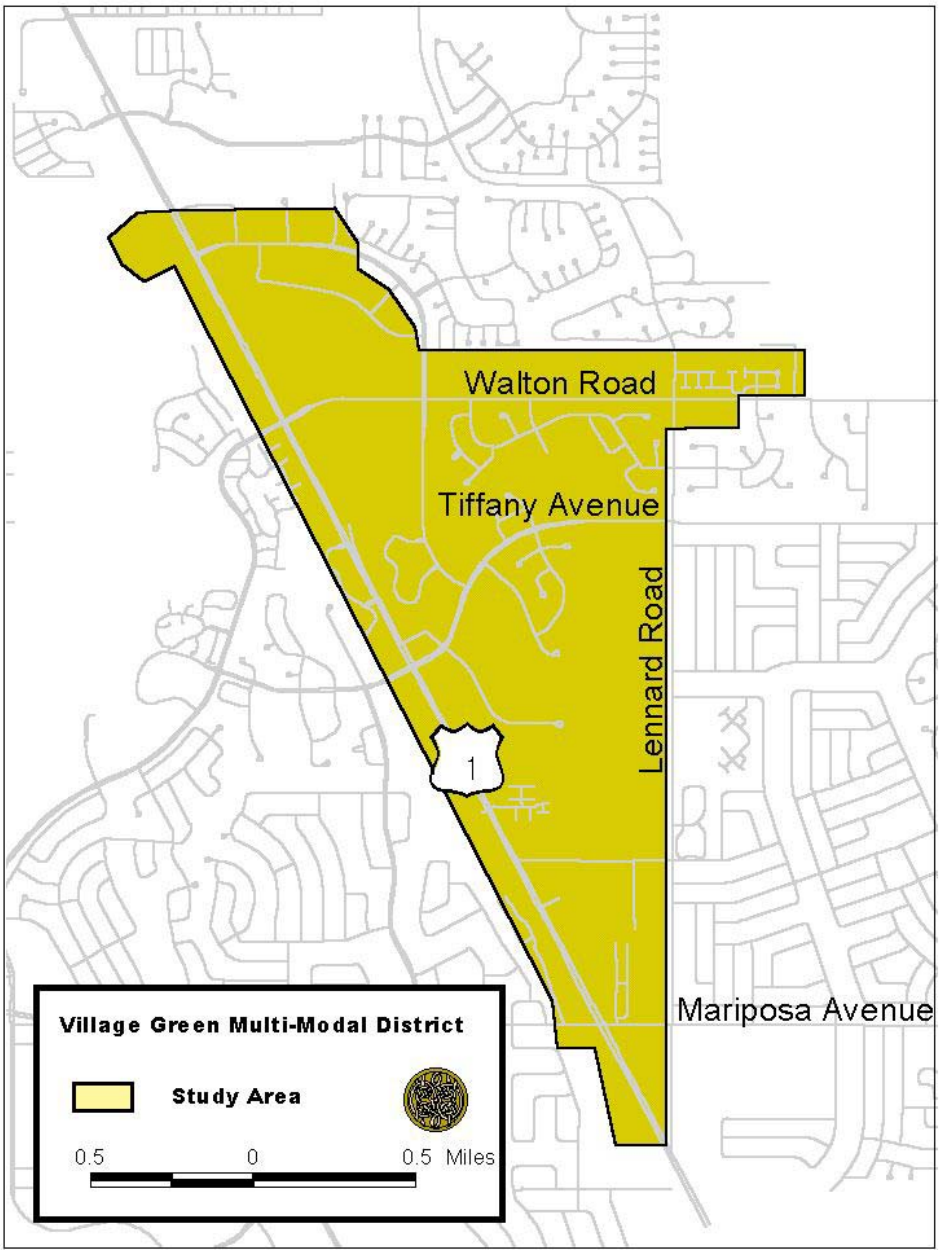


Table 1 – Multimodal Transportation Analysis Roadway Segmentation

Roadway	From	To
Lennard Rd	Walton Rd	Tiffany Ave
	Tiffany Ave	Mariposa Ave
	Mariposa Ave	US 1
Mariposa Ave	US 1	Lennard Rd
Tiffany Ave	US 1	Village Green Dr
	Village Green Dr	Lennard Rd
US 1	Huffman Rd	Walton Rd
	Walton Rd	Tiffany Ave
	Tiffany Ave	Mariposa Ave
	Mariposa Ave	Lennard Rd
Village Green Dr	US 1	Walton Rd
	Walton Rd	Tiffany Ave
Walton Rd	US 1	Village Green Dr
	Village Green Dr	Lennard Rd

Transportation Data

Data were collected and evaluated in ART-PLAN 2000 for automobiles, transit, pedestrians and bicycles. For automobiles, motor vehicle-related variables required for the ART-PLAN 2000 model (i.e. traffic counts and percent turns from exclusive turn lanes) were collected from existing sources, where available. As noted above, these available data were enhanced with intersection turning volumes and signal operations information collected at several signalized intersections in early January 2003, which reflect peak season conditions. Information on the existing transit route serving the CRA and the frequency and span of service was collected from Community Transit. For pedestrians and bicycles, the ART-PLAN 2000 model provides a measure of safety and comfort on the part of bicyclists and pedestrians on a roadway segment's performance using the following information:

- Presence of sidewalk;
- Sidewalk width;
- Presence of bike lanes;
- Buffers between sidewalk and motor vehicle lanes;
- Presence of on-street parking;

- Width of outside travel lanes;
- Posted motor vehicle speed;
- Pavement condition; and
- Access driveway frequency.

Urban Design Data

MTDs also are intended to encourage bicycle, pedestrian and transit-friendly urban design. These measures increase pedestrian safety, comfort and convenience with the layout and design of streets and buildings. An inventory of existing street design characteristics was conducted for major collector roadways, which included the following information:

- Building setbacks;
- Space between buildings;
- Physical barriers, such as landscaping and drainage swales between the sidewalk and buildings;
- Vertical or horizontal mix of land uses; and
- Parking area location (e.g., on-street parking and relation to the building).

These factors are not intended to be exhaustive or exclusionary. As the MTD evolves, it may be prudent to include other factors and/or to eliminate some factors.

Existing Conditions Database

The information collected during this initial data collection effort was coded into an Excel spreadsheet. The database is provided in Appendix A. An update of this inventory should be conducted every five years.

LOS ANALYSIS

FDOT updated its arterial analysis model (ART-PLAN 2000) to include a methodology for evaluating bicycle, pedestrian and transit level of service, in addition to its existing motor vehicle analysis capabilities. Of primary interest to the MTD is ART-PLAN 2000's ability to measure

the "quality of service" with respect to the perception of safety and comfort by a transit patron, a bicyclist or pedestrian. The key factors used to determine transit LOS are:

- Obstacles to accessing the bus stop
- The frequency of bus service
- The hours bus service is available (or span of service)

The key factors used to determine bicycle LOS are:

- Presence of a bike lane or paved shoulder;
- Proximity of bicyclists to motor vehicles;
- Motor vehicle volume, speed and type;
- Pavement condition; and
- Percent of on-street parking.

The key factors used to determine pedestrian LOS are:

- Presence of a sidewalk;
- Lateral separation of pedestrians from motor vehicles;
- Presence of a physical barrier or buffer; and
- Motor vehicle volume and speed.

Figure 2 presents the locations of the existing bicycle and pedestrian facilities in the Village Green CRA. Existing transit service runs along the length of US 1 in the CRA. Details of the Art Plan analysis are provided in Appendix B.

These factors are used by ART-PLAN to derive a LOS score for a given roadway segment. The scores are stratified into ranges represented by a letter grade from A to F. The limits of these ranges are based on FDOT-sponsored research, including a survey of pedestrian perceptions of roadway conditions in the City of Pensacola. Table 2 illustrates the pedestrian and bicycle LOS thresholds at each letter grade.

Figure 2 – Bicycle / Pedestrian Facilities in the Village Green CRA

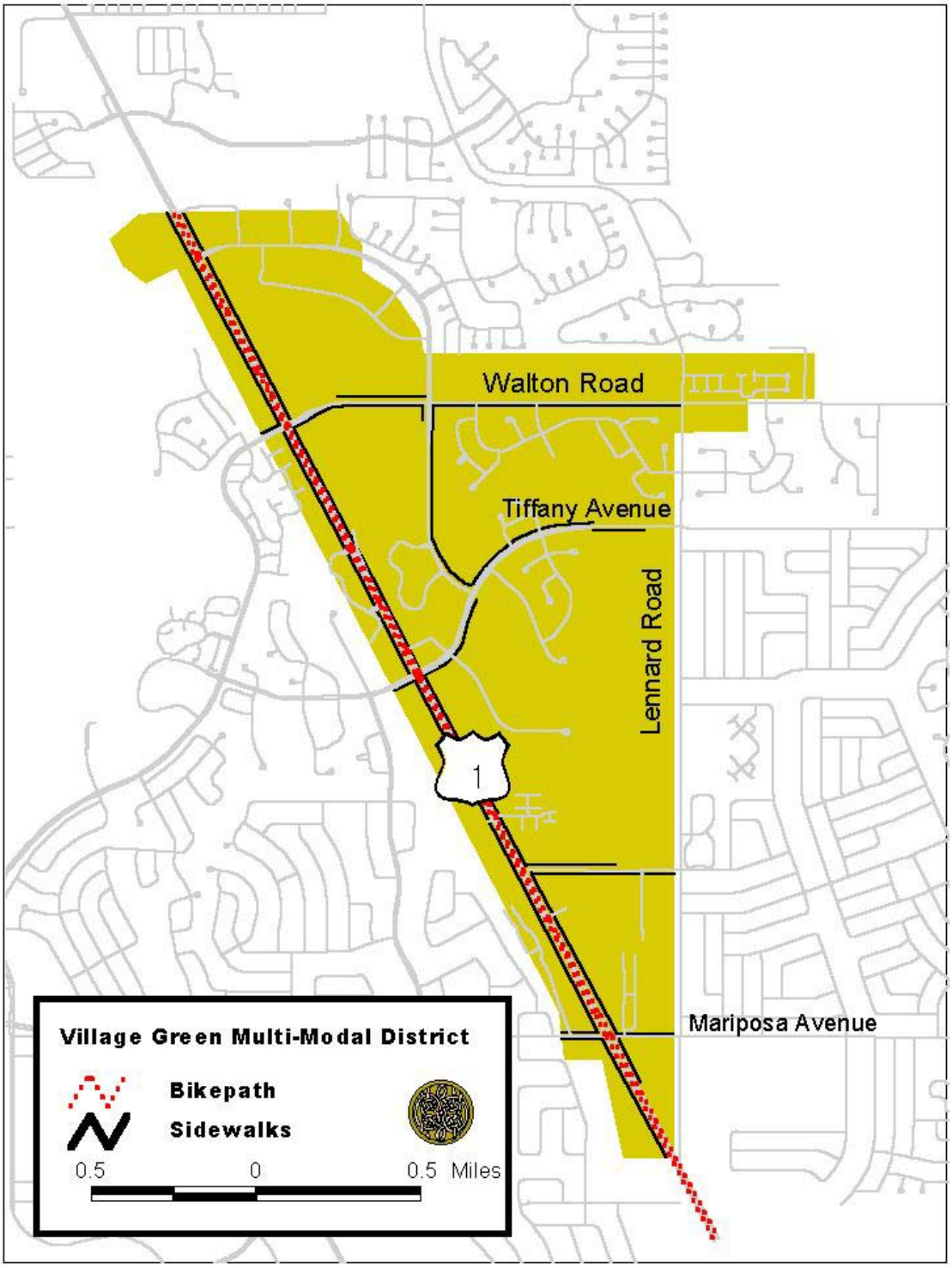


Table 2 – ART-PLAN Thresholds for Transit, Bicycle and Pedestrian LOS

Roadway LOS	ART-PLAN Score
A	< 1.5
B	≥ 1.5 and < 2.5
C	≥ 2.5 and < 3.5
D	≥ 3.5 and < 4.5
E	≥ 4.5 and < 5.5
F	≥ 5.5

Existing LOS by Mode

As noted above, ART-PLAN 2000 estimates corridor LOS for motor vehicle, transit, bicycle and pedestrian modes. Table 3 and Figures 3, 4, 5 and 6 present the ART-PLAN estimated LOS and the unadjusted LOS scores based on the ranges for motor vehicles, transit service, bicycle facilities and pedestrian facilities. The specific inputs used to derive these results are shown in Appendix A. The district-wide LOS for each mode is determined by weighting the segment's LOS score for each mode by its length relative to the length of all segments in the MTD. Analysis steps presented in the following section adjust these scores by measures related to the quality of service along each roadway segment.

Table 3 – Existing Levels of Service and Unadjusted Scores by Mode

Roadway	From	To	Auto	Transit*		Bicycle		Pedestrian	
Lennard Rd	Walton Rd	Mariposa Ave	B	NA	NA	B	2.26	D	3.80
	Mariposa Ave	US 1	D	NA	NA	B	2.35	C	3.02
Mariposa Ave	US 1	Lennard Rd	C	NA	NA	B	2.25	D	3.77
Tiffany Ave	US 1	Lennard Rd	D	D	4.00	B	1.80	C	3.10
US 1	Huffman Rd	Walton Rd	D	D	4.00	C	2.74	D	3.83
	Walton Rd	Tiffany Ave	B	D	4.00	C	2.64	D	3.90
	Tiffany Ave	Mariposa Ave	E	D	4.00	C	2.64	D	3.91
	Mariposa Ave	Lennard Rd	F	D	4.00	C	2.63	D	4.42
Village Green Dr	US 1	Walton Rd	B	D	4.00	B	2.22	D	3.87
	Walton Rd	Tiffany Ave	F	NA	NA	C	2.87	F	6.62
Walton Rd	US 1	Village Green Dr	C	D	4.00	B	1.91	C	2.84
	Village Green Dr	Lennard Rd	B	NA	NA	B	2.08	C	3.03
District-wide				**D**	**4.00**	**C**	**2.67**	**C**	**3.38**

* Transit LOS is from ART-PLAN. The score is derived based on ranges in Table 2. NA indicates no transit service on the segment.

Figure 3 – Auto Levels of Service

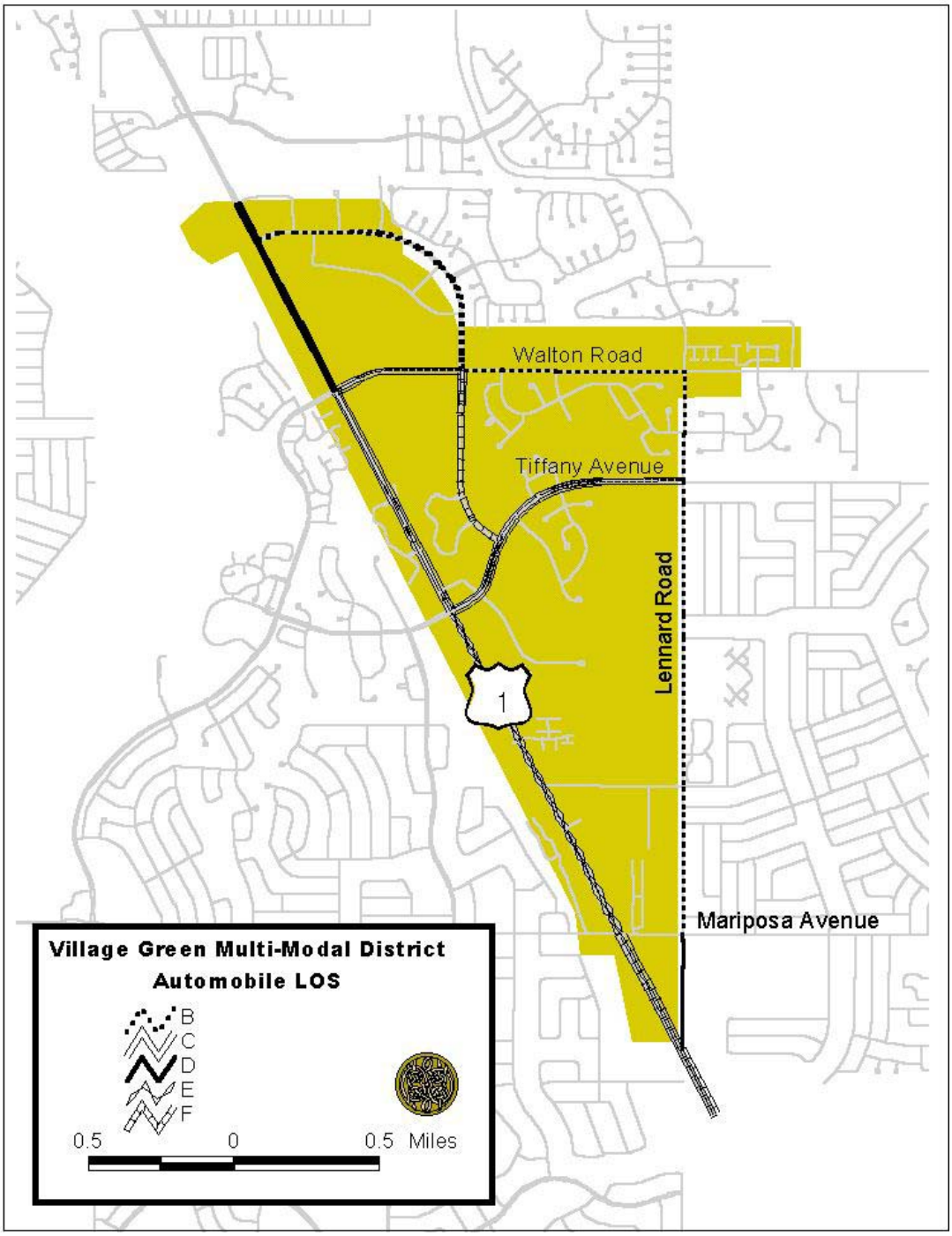


Figure 4 – Transit Levels of Service

Figure 5 – Bicycle Levels of Service

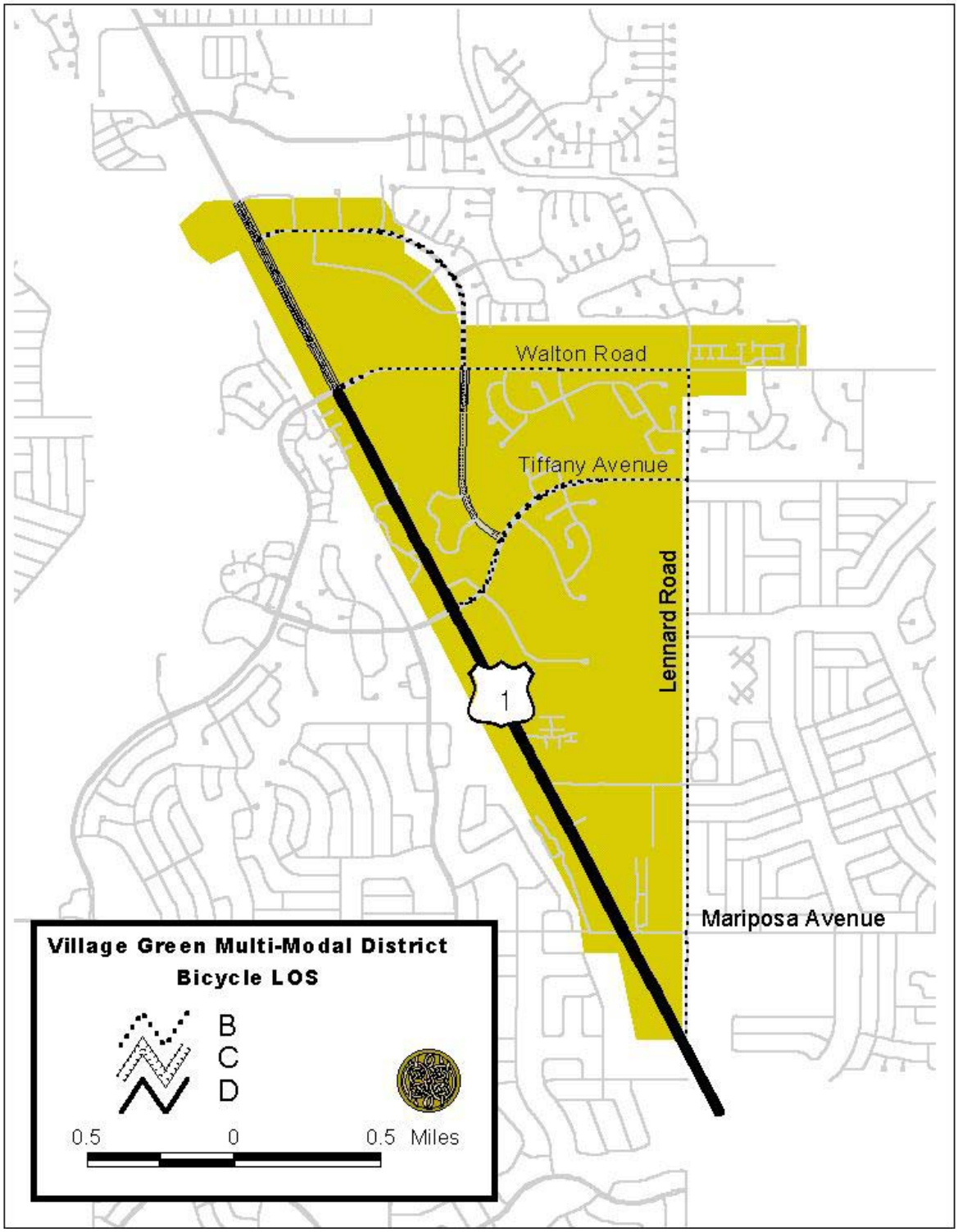
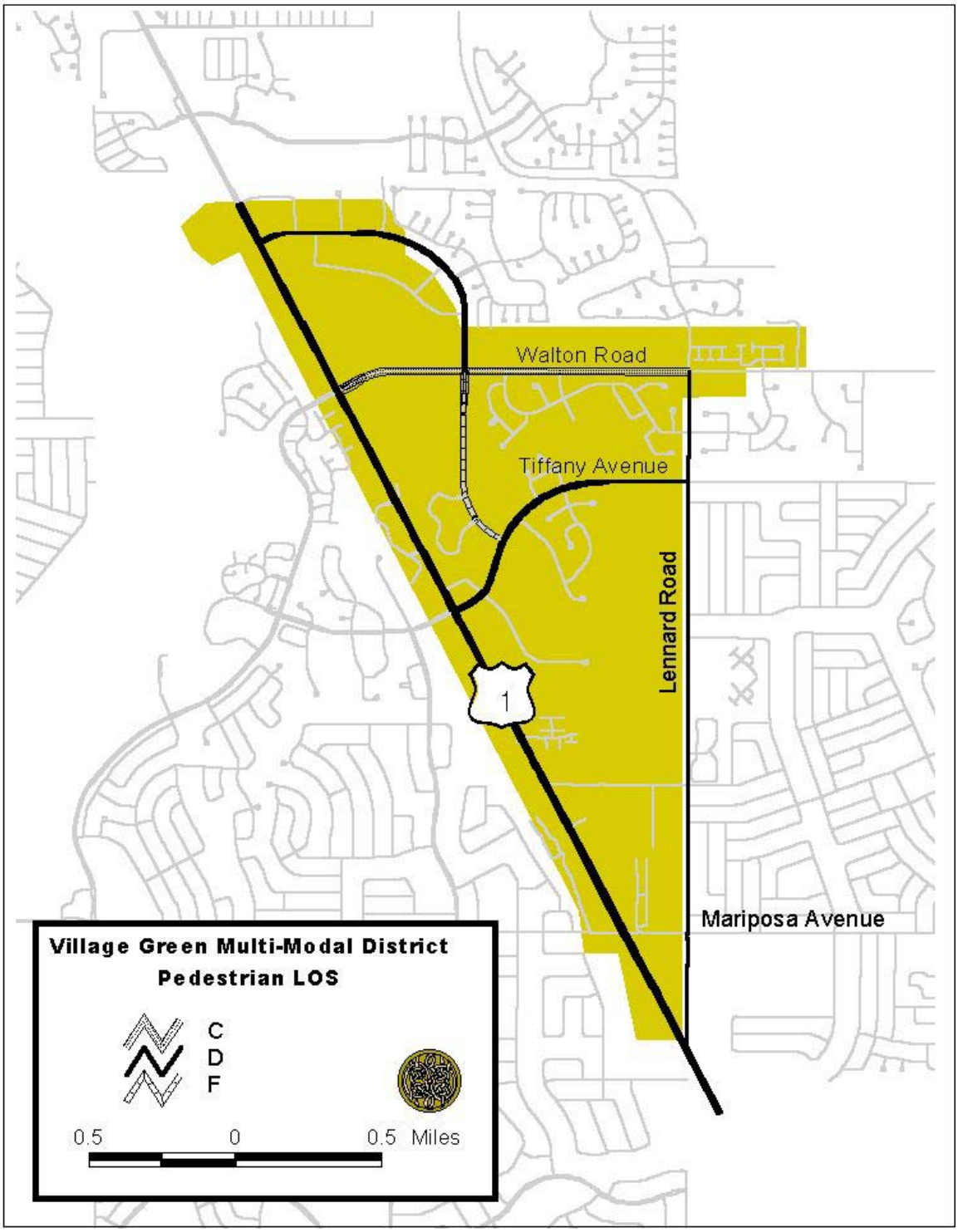


Figure 6 – Pedestrian Levels of Service



QUALITY OF SERVICE FACTORS

There are three key factors affecting the "quality of service" in a MTD not considered by FDOT's ART-PLAN model. These factors are:

1. Urban form (density, diversity and design of land uses);
2. Population and employment accessibility to transportation facilities; and
3. Transportation facility connectivity.

The gross district-wide LOS results are adjusted by the generalized factors, as described in the following sections.

Urban Form (Density, Diversity and Design)

The potential of a MTD to support and encourage the use of alternative modes of transportation is influenced by the density of development, the diversity or mix of adjacent land uses, and urban design characteristics. Examples of relevant urban design principles are placing buildings close to the right-of-way and to adjacent buildings and locating parking to produce a more compact development pattern. These measures reduce walking distances and create pedestrian and bicycle-friendly character and conditions. As noted in Transit Village in the 21st Century (Michael Bernick and Robert Cervero), there is a "thin", sometimes contradictory, understanding of influence of urban design on travel, but enough evidence to reasonably conclude that urban design can increase the number of walking and biking trips and transit ridership.

In the authors' research, the most compelling evidence linking urban design and travel behavior was found in a case study of two communities, Rockridge and Lafayette, in the San Francisco Bay area. Both have very similar household and resident characteristics and transportation attributes, but differ in their residential densities, street networks and building footprints and layouts. Rockridge has a tight urban grid, smaller building footprints, and higher residential densities, although nearly two thirds of all homes were single family detached houses. The design characteristics of Rockridge are similar to those proposed in the Village Green Master Plan and the Design, Performance and Implementation Guidelines. In contrast, Lafayette has a suburban street pattern with a lack of connectivity, isolated buildings, and lower residential densities, similar to the Village Green area today.

In comparing the travel characteristics of the two communities, close to 15 percent of all non-work trips were made by walking, biking or transit in Rockridge, compared to only four percent in Lafayette. In addition, trip distances were consistently shorter for the auto travel modes in Rockridge than Lafayette, resulting in higher vehicle miles of travel. Conversely, walk trip lengths were higher in Rockridge than Lafayette, suggesting that the area's urban design principles encouraged people to walk further to destinations, which likely accounts for the higher percentage of walk trips. As such, the urban design characteristics in Rockledge did reduce the number and length of vehicle trips. It can reasonably be expected that similar travel demand changes will occur as the Village Green CRA redevelops from its current suburban pattern to the more urban pattern envisioned by the Master Plan. The quality of service elements in the MTD are intended to reinforce these urban design features.

The following measures are recommended to determine density, diversity and design:

- Density
    - **Net residential dwelling units per acre** This is a standard measure for residential densities. A greater number of dwelling units per acre is positive. A ratio of less than three dwelling units per acre is considered low density, while more than ten dwelling units per acre, typically a mix of single and multifamily housing, is considered high density.
    - **Non-residential floor area ratio** This is a standard measure for non-residential densities, although it also is applicable to residential uses. Higher FARs are positive. A FAR of less than 0.30 reflects low density development, such as a one story building with less than 30 percent building coverage of the lot. FARs over 1.0 reflects multi-story buildings with lot coverage of 50 percent or more.
- Diversity
    - **Jobs / population index** This measure reflects the mix of residential and non-residential development in an area. The index is the lesser of either the population or employment divided by higher of the two, which provides directionality and makes higher scores positive. The index ranges from zero to one. The score for an area with 50 jobs and 50 residents is 1.0 (0.5/0.5), while the score for an area with 90 jobs and 10 residents is 0.11 (0.1/0.9).
    - **Land use mix index** This measure is similar to the jobs/population index, except it uses land or building area, rather than socioeconomic inputs, to measure diversity. This index is capable of factoring in differences among non-residential land uses. Like the employment/population index, the land use with the least area is divided by the use with the most area. The number of represented land uses then is multiplied by

this ratio to calculate the index. Higher scores are positive. The index score for an area with two uses (80 acres residential and 20 acres civic) is 0.5 (20/80*2). The score for an area with four uses (40 acres retail, 20 acres office, 20 acres institutional and 20 acres civic) is two (20/40*4). This last example illustrates how the land use mix index captures diversity among non-residential uses, which is not possible with the jobs/population index.

- Design – there are several ways design influences travel patterns, including:
  - An interconnected travel path network that provides accessibility for all modes within the district. Measures include:
    - **Travel path index** This measure is the linear feet of travel paths per 1,000 square feet of area. At a minimum, travel paths included in this measure must accommodate walkers, but they can be multiuse paths or greenways. To note the extent of a connected network of paths, the measure only includes travel paths that connect to areas beyond a site and excludes cul-de-sacs or dead end paths. Half the lengths of paths on the edges of an area are counted, assuming other areas will benefit from and should take credit for these paths. The travel path index for a rectangular area 2,000 feet by 800 feet (1,600,000 square feet) and one path in each direction (2,000 feet and 800 feet, or 2,800 feet of travel paths) is 1.75 (2,800/(1,600,000/1,000). The same area divided by four travel paths in each direction has a total travel path length of 11,200 feet (four paths of 2,000 feet each and four paths of 800 feet each) and an index of 7.0 (11,200/(1,600,000/1,000)). The average block length in this second scenario is 500 by 200 feet, which reflects a dense urban network of streets.
    - **Path and diversity index** This measure combines the land use mix index by the travel path index to reflect the interplay between design and diversity. More travel paths increase block density, and more blocks can mean greater opportunities for diversity. More importantly, the measure overcomes weaknesses of the land use and travel path measures, as the land use mix index does not measure the accessibility of land uses and the travel path index only measures accessibility. The index is calculated by multiplying the land use mix and the travel path indices. The block diversity index for an area with a high travel path index of 8.0 (blocks around 500 feet) and a moderate land use index of two is 16 (8.0*2.0). The score for the same land use index, but a low travel path index of two, is four (2.0*2.0). The score for a moderate travel path index of four and a low land use index of 0.5 is two (4.0*0.5). A high land use index of three and a moderate path index of four raises the score to 12 (4.0*3.0).
    - **Ratio of direct versus indirect connections with surrounding streets** This measure is designed to encourage the development of travel paths that connect directly with off-site paths. A higher ratio is better.
  - Clearly defined, safe and proximate travel paths

- **Ratio of building footprint to unused open and off-street parking area** This ratio measures both density and accessibility. Higher ratios reflect less open space among buildings, increasing densities and improving accessibility.

- **Building setback**s This measure quantifies the distance between the front door of buildings and travel paths. Minimum setbacks of 10 feet or less reduce the distance, thereby increasing accessibility. Bringing buildings to the street with "build-to lines" creates path walls that better define the path, provides a better sense of protection, and creates more interest for walkers.

- **Building street frontage percentage** This measure is complementary with the building setback measure. Buildings with gaps in between create a similar sense of isolation similar to that created by large setbacks. Higher percentages are positive.

A general rating of "good," "moderate" or "poor" is developed for each of the factors listed above. For this existing conditions analysis, the measures are applied to the district to estimate existing urban form conditions. These criteria can also be applied to sites as development proposals are reviewed for concurrency. The specific measures and ranges for each rating are summarized in Table 4.

Table 4 -- Urban Form Characteristics Rating

	Urban Form Rating		
Urban Form Characteristic	***Poor***	***Moderate***	***Good***
Density			
Dwelling units per net acre	Less than 5	5 to 10	More than 10
Floor area ratio	Less than 0.3	0.3 to 1.0	More than 1.0
Diversity			
Jobs / population index	Less than 0.3	0.3 to 0.6	More than 0.6
Land use mix index	Less than 1	1 to 2	More than 2
Design			
Network connectivity and accessibility			
Travel path index	Less than 3	3 to 5	More than 5
Path and diversity index	Less than 3	3 to 12	More than 12
Ratio of direct/indirect connections			
Clearly defined, proximate paths			
Building footprint/open area ratio	Less than 0.3	0.30 to 0.60	More than 0.60
Building setbacks (feet)	More than 20	10 to 20	Less than 10
Building street frontage percentage	Less than 30	30 to 70	More than 40

Development in the Village Green CRA was assigned an urban form index based on the scores for each of the urban design measures (Table 5). Details of how the district-wide ratings

and indexes were developed are provided in Appendix A. Results indicate that urban form in the CRA is poor for all measures except diversity, where it rates good, indicating that urban form changes in the CRA should focus on density and design, not diversity.

Table 5 – Urban Form Ratings by Corridor

Urban Form Characteristic	Urban Form Rating		
	Score	***Grade***	***Index***
Density			
Dwelling units per net acre	4.95	Poor	1.20
Floor area ratio	0.15	Poor	1.20
Diversity			
Jobs / population index	0.95	Good	0.80
Land use mix index	50.56	Good	0.80
Design			
Network connectivity and accessibility			
Travel path index	0.20	Poor	1.20
Path and diversity index	1.16	Poor	1.20
Ratio of direct/indirect connections	0.60	Moderate	1.00
Clearly defined, proximate paths			
Building footprint/open area ratio	0.25	Poor	1.20
Building setbacks (feet)	15	Poor	1.20
Building street frontage percentage	0.20	Poor	1.20
District-wide (average of all scores)			**1.10**

The index associated with each measure is added with the other indexes, resulting in a district-wide index that adjusts the ART-PLAN LOS score to account for the influence of urban form on multimodal travel. A "good" urban form rating results in the ART-PLAN score being reduced by 0.80, a "poor" rating increases the ART-PLAN score by 1.20 and a "moderate" rating does not change the ART-PLAN score. As shown at the bottom of Table 5, ART-PLAN scores for the CRA are adjusted upward by the overall urban form index of 1.10, which reflects a moderate to poor urban form rating.

Accessibility Index

The accessibility index recommended by FDOT for multimodal transportation districts is the proportion of the total MTD population and employment in close proximity to pedestrian and bicycle facilities. The index is calculated using ArcView GIS to identify quarter-mile buffer zones around walking paths and half-mile buffer zones around bicycling paths within the CRA.

The radius of the buffer zone represents the distance a potential user will travel to access a walking or bicycling path.

The accessibility index requires caution, as it assumes direct access to travel paths from anywhere in a buffer, which is often not the case. For instance, because pedestrian travel is extremely sensitive to distance, it is more likely for a pedestrian to access a travel path from a building adjacent to the path than one a quarter-mile away. Further, walkways from buildings to paths are not always direct, pleasant, interesting, or safe. An example is the walk across a parking lot on a hot summer day. The urban form measures presented above attempt to incorporate these factors when measuring accessibility.

Like the urban form factors, the accessibility index is used to adjust the LOS score. The LOS score is reduced when accessibility is high and increased when accessibility is low. Table 6 presents the accessibility index for transit, bicycle and pedestrian modes. If over 90 percent of the households and jobs in the CRA are within a quarter mile of a sidewalk or transit stop, or within a half mile of a bike path, the accessibility LOS is assumed to be A and the index, or factor used to adjust the ART-PLAN score, is 0.90. If less than 50 percent of households and jobs are in close proximity, the accessibility LOS is E and the ART-PLAN score is factored up by 1.10.

Table 6 -- Accessibility by Percent of Jobs/Households Served

Percentage of Households and Jobs Served	LOS Grade	Accessibility Index
>=90%	A	0.90
>=80%	B	0.95
>=70%	C	1.00
>=60%	D	1.10
>=50%	E	1.15
<50%	F	1.20

The accessibility scores for walk and bike paths in the Village Green CRA are high, with the pedestrian and bicycle buffer areas covering nearly 100 percent of the total area in the CRA (Table 7). The only marginal LOS is accessibility for employees who walk (LOS C).

These results differ from the urban form design measures that reflect accessibility (building setback and coverage), which scored poorly. The coarseness of the buffers alluded to above accounts for the differences and illustrates why the accessibility index, by itself, may be misleading.

Table 7 – District-wide Accessibility Index Score and LOS

Facility	Population			Employment		
	Pct Served	LOS	Index	Pct. Served	LOS	Index
Transit	0.75	D	1.00	0.67	D	1.10
Bicycles	0.92	A	0.90	1.00	A	0.90
Pedestrian	0.87	B	0.95	0.73	C	1.00

Connectivity Index

FDOT recommends another indicator for a MTD, the connectivity index. The local street network in a MTD should promote accessibility through interconnectivity for all modes of transportation. As presented in the urban design section above, a well-connected grid pattern is considered a functional design in most places because it provides abundant travel paths for walkers and bicyclists. While increased connectivity does improve access to transit, the urban form and accessibility indexes reasonably address the adequacy of the access, so a connectivity index is not developed for transit.

Like the urban form and accessibility indexes, a connectivity index score of 1.0 indicates the area's connectivity neither positively or negatively influences LOS. A score less than 1.0 indicates a positive influence, and a score greater than 1.0 indicates a negative influence.

The connectivity indexes for each of the travel modes are defined as:

- **Bicycles** – This index is calculated by dividing the number of street links by the number of nodes, such as intersections, cul-de-sacs, and dead-ends. A connectivity index between 1.4 and 1.8 is considered desirable for automobiles. Bicycles are permitted on all Florida roadways, except expressways, so all roadway links should be included in this analysis. Separated bike paths also are evaluated using this methodology. Table 8 illustrates the automobile/bicycle connectivity index ranges.

- **Pedestrians** – The pedestrian connectivity index is calculated by computing the number of termini per square mile in each MTD. Pedestrian termini are defined as link ends where no connections to other pedestrian links are made or where pedestrian barriers exist that prohibit

walking. Missing sections of sidewalk, dead-end streets, and cul-de-sacs are the most common pedestrian termini in the Village Green CRA. The maximum acceptable connectivity index for pedestrian facilities in a MTD is two termini per square mile. Table 9 illustrates the pedestrian connectivity index ranges.

Dividing links by nodes is a good proxy for connectivity, because as the path density increases so will the number of intersections. In addition, each intersecting street reflects an opportunity to travel in two or three additional directions. For the latter reason, the link/node measure complements the path density well. However, this ratio may be misleading in that a high number of intersections may not reflect high connectivity. For example, there were several subdivisions in the CRA that had a high ratio of intersections to links, but only one or two connections to the larger street network.

Termini per square mile is a reasonable proxy for connectivity, as each dead end street is a lost opportunity for a path connection. However, the index can be misleading because it measures lost, rather than available, opportunities. There can be rare cases where path density and intersection/link ratios are high, providing ample connectivity, yet the pedestrian index is poor because the termini are high as well. As such, termini density should be considered in combination with the intersection / link ratio to get a truer picture of connectivity.

Both measures are similar in nature to the travel path density described above. The travel path density measure avoids some of the potential problems with the intersection/link ratio and the termini density measures because it directly measures the amount of connected travel paths available. In addition, it can measure connectivity at the site, community, corridor and regional levels.

Table 8 – Bicycle LOS and Connectivity Index Ranges

Links/Nodes Ratio	LOS Grade	Connectivity Index
>2.00	A	0.90
1.50 – 1.99	B	0.95
1.00 – 1.49	C	1.00
0.50 – 0.99	D	1.10
0.10 – 0.49	E	1.15
0.05 – 0.09	F	1.20

Table 9 – Pedestrian LOS and Connectivity Index Ranges

Termini Per Square Mile	LOS	Connectivity Index
0.00 – 0.99	A	0.90
1.00 – 1.49	B	0.95
1.50 – 1.99	C	1.00
2.00 – 2.49	D	1.10
2.50 – 2.99	E	1.15
3.00 – 3.99	F	1.20

The existing bicycle and pedestrian connectivity levels of service and indexes for the Village Green MTD are shown in Table 10. The poor pedestrian LOS reflects the lack of connectivity in the CRA and supports the travel path index presented above. The average bicycle LOS (B) is somewhat unexpected. As noted above, there are subdivisions within the CRA that have high intersection to link ratios, but only one or two connections to the larger network, making the results somewhat misleading.

Table 10 – District-wide LOS Grades and Connectivity Indices

Mode	Result	LOS	Index
Bicycles (links/nodes)	1.92	B	0.95
Pedestrians (termini density)	4.10	F	1.20

DISTRICT-WIDE ADJUSTED LOS

Using the urban form, accessibility and connectivity LOS results, the gross district-wide LOS score from ART-PLAN is adjusted to arrive at the district-wide *adjusted* LOS. Table 11 summarizes the existing LOS by mode, when consideration is given to both quantitative and qualitative LOS measures. For bicycles, the ART-PLAN LOS of C is not changed by the adjustments. For pedestrians, the adjustments reduce the ART-PLAN LOS from C to D.

Table 11 – District-wide (Adjusted) Bicycle & Pedestrian LOS & Score

Mode	Unadjusted		Urban Form Factor	Access. Index	Connect. Index	Adjusted	
	LOS Score	LOS Grade				LOS Score	LOS Grade
Transit	D	4.00	1.10	1.00	NA	4.40	D
Bicycles	C	2.67	1.10	0.92	0.95	2.57	C
Pedestrians	C	3.38	1.10	0.87	1.20	3.88	D

The LOS standard will be based on the future conditions analysis presented in Technical Memorandum 4, Future Conditions. It is based on the urban design standards developed from the Village Green Master Plan, as well as feasible improvements within the CRA.

SUMMARY

This Technical Memorandum presents the results of the multimodal analysis for the Village Green Community Redevelopment Area (CRA). Multimodal transportation districts (MTDs) are enabled by Florida Statutes to encourage land development that supports all transportation modes using adjustments in a locality's concurrency management system. Concurrency requirements are expanded to evaluate levels of service for non-automotive, as well as automotive, travel.

Phase I of the St. Lucie and Martin County Regional Land Use Study found that concentrated development in activity centers along the US 1 corridor in both counties can reduce traffic volumes on US 1 to the point where large scale interchanges are not required along the roadway. The Village Green CRA is one of the proposed activity centers and is the focus of the Phase II study that demonstrates the design characteristics of these activity centers and how these characteristics can be realized through local government incentives and regulations. One of the key tools for local governments is the creation of a MTD.

To create a MTD, a locality must go through several steps, beginning with a level of service (LOS) assessment of existing conditions. Once the existing LOS is established, a set of reasonable improvements is evaluated to help set the LOS standards. The last step is finalizing the improvements for inclusion in the local government's Capital Improvements Element.

This memorandum presents the results of the existing conditions analysis for the Village Green CRA. The evaluations address the auto, pedestrian, and bicycle facilities along the area's

major roadways, as well as the accessibility, and connectivity of those facilities. It also evaluates the urban design characteristics of the CRA.

LOS for transit, bicycles and pedestrian travel modes is based on the availability of facilities and services. The LOS is calculated by the Florida Department of Transportation's ART-PLAN software. Several quality of service adjustments are made, including whether or not there is supportive urban form for these alternative modes, the accessibility to these modes and the connectivity of the modes. Based on the ART-PLAN analysis and the adjustments, the existing LOS for in the Village Green CRA is:

- C for bicyclists (moderate)
- D for pedestrians (moderate to poor) and
- E for transit (poor)

APPENDIX A: MTD DATABASE

APPENDIX B: ARTPLAN RESULTS

TECHNICAL MEMORANDUM 4: FUTURE CONDITIONS ANALYSIS FOR THE VILLAGE GREEN MULTIMODAL TRANSPORTATION DISTRICT

Prepared for:

TREASURE COAST REGIONAL PLANNING COUNCIL

Prepared by:

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MULTIMODAL TRANSPORTATION DISTRICT – FUTURE CONDITIONS ANALYSIS

INTRODUCTION

This document describes the analysis conducted by the Treasure Coast Regional Planning Council in its effort to implement a Multimodal Transportation District (MTD) for the Village Green Community Redevelopment Area (CRA). MTDs are intended to guide quality development and redevelopment activity and improve personal mobility and accessibility for the overall transportation system, including automobiles bicycles, pedestrians and transit. Within a MTD, priority is given to non-auto travel modes, such as walking, to promote compact, pedestrian-friendly development and redevelopment in appropriate areas. Secondary importance is assigned to automobile mobility within these districts.

The Florida Department of Transportation (FDOT) has developed a methodology for measuring the quality of service for bicyclists and pedestrians along roadway segments, as required per Section 163.3180(15)(a), Florida Statutes. The level of service (LOS) methodology proposed in this analysis is based on the FDOT research, as outlined in the Transportation Research Board's (TRB) "Multi-Modal Level of Service (LOS) Analysis at a Planning Level" (Paper No. 01-3084).

The multimodal analysis conducted for the Village Green MTD used the following seven steps:

1. **Collect data** Data required for the ART-PLAN and quality of service (QOS) analysis are collected for the Village Green CRA.

2. **Analyze multimodal levels of service** FDOT's ART-PLAN 2000 is used to determine the existing unadjusted level of service (LOS) for autos, bicycles and pedestrians in the CRA.

3. **Analyze quality of service** Factors that influence accessibility for all modes, such as urban design that promotes walkability, are measured.

4. **Adjust multimodal LOS** The quality of service factors from the third step are used to adjust the ART-PLAN LOS developed in the second step.

5. **Determine maximum achievable LOS** Potential transportation improvements and urban design requirements, such as those developed from the Village Green Master Plan,

are analyzed using LOS and QOS to help determine an appropriate LOS target for the district.

6. **Determine multimodal LOS standards** LOS standards are set based on the analysis in the fifth step.

7. **Recommend MTD improvements and estimated costs** A final set of improvements is defined based on the multimodal LOS standards set in the sixth step.

Technical Memorandum 1: Existing Conditions (January 28, 2003) presented the results of the first through the fourth steps of the MTD analysis process. This Technical Memorandum documents the future conditions analysis for the Village Green MTD, inclusive of the fifth through seventh steps.

MAXIMUM LEVEL OF SERVICE

Determining the maximum level of service involved the simulation of conditions at the build out of the Village Green CRA. First, the development potential and design characteristics of the Village Green CRA were estimated. Next, bicycle and pedestrian facility improvements were identified, based on the Master Plan and development potential. Finally, the development potential was entered into the Treasure Coast Regional Planning Model (TCRPM) to estimate build-out travel demand and future roadway levels of service. From this information, future LOS scores were calculated using ART-PLAN 2000 and the QOS factors presented in Technical Memorandum 1.

Development Potential

The Village Green design charrette, held during early November 2002, resulted in a Master Plan for the Village Green redevelopment site in Port St. Lucie. Design Performance and Implementation Guidelines were prepared to reflect the Master Plan and serve as a policy framework for the multimodal centers identified in the study corridor during Phase I of the Martin and St Lucie County Regional Land Use Plan. The urban design characteristics from the guidelines were used to estimate the development potential of the CRA.

The Town Center site comprises 80 acres of the CRA's 850 acres. The Master Plan focuses the most intense development around a proposed transit stop on US 1. Densities decrease from the center to the edges of the site approximately a quarter mile from the transit stop. With proper design, transit can capture walking trips one half-mile from the station. The Master Plan does not extend beyond the Village Green site, so assumptions were made for development within the half-mile band surrounding the core of the Master Plan area. This area is referred to as the "transition area". The transition area is assumed to include densities that are approximately one half the densities of the core area and a higher percentage of residential uses.

Combined, the core and transition areas cover 200 of the CRA's 850 acres. There is another opportunity for a 200-acre core and transition area south of the Village Green site on US 1 that covers most of the southern half of the CRA. The stop would be at least one mile from the Village Green stop, which is adequate spacing for transit service.

Figure 1 presents the overall concept plan for the CRA, including the northern and southern transit-oriented development areas. Table 1 presents the development potential of this concept plan, using guidelines from the Master Plan for the core areas and density assumptions for the transition areas. The development potential of this multimodal design results in a build-out population close to 8,000 and a build-out employment of nearly 20,000.

Transportation Improvements

The Village Green Master Plan identified a number of new off-site streets and bicycle/pedestrian travel paths that improve connectivity to the site. Additional travel paths are proposed to improve access to the second core and transitional area in the southern half of the CRA (Figure 1). Bicycle and pedestrian facilities are assumed along each of these new paths. Also, a multipurpose trail along a north/south greenway is proposed that would have bicycle/pedestrian-only spurs into all sectors of the CRA. In essence, the trail would create an internal bicycle/pedestrian path network separated from the roadway network. Bus rapid transit service with 30-minute headways throughout the day is assumed along US 1. Table 2 summarizes the proposed transportation improvements.

Figure 1 – Village Green CRA Development Concept Plan

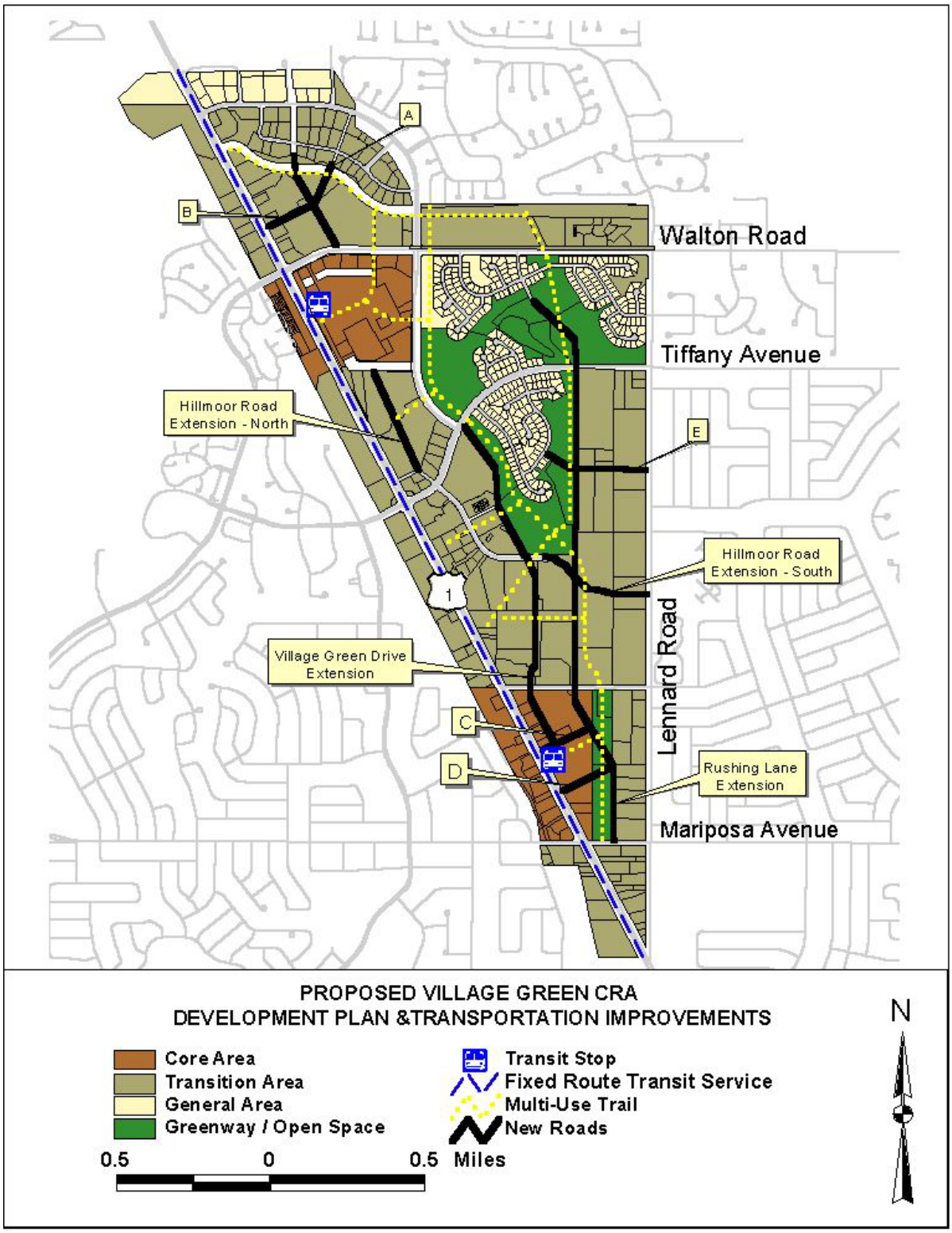

Table 1 – Village Green CRA Development Potential

Land Use	Acres	F.A.R.	Building Sq. Ft.	Population / Employees per 1000Sq.Ft.	Population / Employees
Town Centers					
Residential	25.0	1.50	1,633,500	2.00	3,267
Commercial	50.0	1.50	3,267,000	2.50	8,168
Retail	25.0	0.75	816,750	2.00	1,634
Civic / Institutional	25.0	1.50	1,633,500	2.50	4,084
Sub-Total *	125.0	1.35	7,350,750	2.43	13,885
Transition Area					
Residential	120.0	0.25	1,306,800	2.00	2,614
Commercial	60.0	0.50	1,306,800	2.50	3,267
Retail	30.0	0.25	326,700	2.00	653
Civic / Institutional	30.0	0.50	653,400	2.50	1,634
*Sub-Total**	240.0	0.34	3,593,700	2.43	5,554
Balance of CRA					
Residential	250.0	0.12	1,296,128	1.80	2,333
Commercial	10.0	0.10	43,560	2.24	97
Retail	5.0	0.10	21,780	2.10	46
Civic / Institutional	5.0	0.10	21,780	2.25	49
*Sub-Total**	270.0	0.12	1,383,248	2.21	192
CRA Total					
Residential	395.0	0.25	4,236,428	1.78	8,214
Commercial	120.0	0.88	4,617,360	2.50	11,532
Retail	60.0	0.45	1,165,230	2.00	2,333
Civic / Institutional	60.0	0.88	2,308,680	2.50	5,766
*Total**	635.0	0.45	12,327,698	2.43	19,631

* Total Employment only. Population total listed under residential land use.

Table 2 – Proposed Transportation Improvements in the CRA

Roadway	From	To	Type	Length (Miles)	Cost (000s)
Existing Roads	CRA – missing sidewalks		Add sidewalks	4.22	$422
	CRA – missing bike paths		Add bike lanes	5.44	$544
New Road A	Village Green	Walton Road	2 lane roadway*	0.31	$465
New Road B	Village Green	Walton Road	2 lane roadway*	0.27	$405
Village Green Extension	Tiffany Avenue	Hillmoor Road	2 lane roadway*	1.12	$1,680
	Hillmoor Road	Jennings Road	2 lane roadway*		
	Jennings Road	New Road C	2 lane roadway*		
Rushing Land Extension	Walton Rd.	Tiffany Ave.	2 lane roadway*	1.83	$2,745
	Tiffany Ave.	Hillmoor Road	2 lane roadway*		
	Hillmoor Road	Jennings Road	2 lane roadway*		
	Jennings Road	Mariposa Avenue	2 lane roadway*		
Hillmoor Road Extension	Tiffany Avenue	Town Center A	2 lane roadway*	0.37	$$1,095
	Village Green Ext.	Lennard Rd.	2 lane roadway*		
New Road C	US 1	Rushing Extended	2 lane roadway*	0.18	$270
New Road D	US 1	Rushing Extended	2 lane roadway*	0.18	$270
New Road D	Rushing Extended	Lennard Road	2 lane roadway*	0.34	$510
Greenway	Village Green	Mariposa Avenue	Multi-use trail	4.00	$4,000
District-wide					**$12,406**

*Two-lane, curb and gutter cross-section with 3 foot bike lanes and 6 foot sidewalks on both sides

Future Levels of Service

The development potential of the CRA was translated into trip ends (productions and attractions) for the CRA traffic analysis zones using the CorPlan model. The updated productions and attractions were inserted into the FSUTMS Production and Attraction files to replace the trip end forecasts of the approved land use scenario from the Phase I analysis. Also, the transportation improvements identified for the CRA were coded into FSUTMS. The coded network and model results are provided in Appendix A.

The proposed transportation improvements and future year traffic volumes from FSUTMS were entered into ART-PLAN to determine future levels of service. Results are summarized in Table 3, with details in Appendix B. Automobile LOS on existing roads ranges from LOS C on most of the roadway segments to LOS D on US 1. Transit LOS is B and bicycle levels of service range from B to C. Pedestrian LOS ranges from B to E, with poor LOS on those roads with low auto LOS, such as US 1. While pedestrian LOS is directly affected by auto LOS in ART-PLAN, the bicycle LOS appears not to be noticeably affected.

Non-local streets and exclusive bicycle/pedestrian segments cannot be evaluated using ART-PLAN because the software requires traffic volume and minimum signal spacing inputs in to generate LOS results. However, the pedestrian and bicycle LOS concepts in the software are based on the bicycle and pedestrian LOS methodology developed by FDOT. The non-arterial roadways and exclusive travel paths in the CRA generally were evaluated with this methodology, with results presented in Table 3.

Table 3 – Future Levels of Service and Unadjusted Scores by Mode

Roadway	From	To	Auto /Cong. Speed	Transit*		Bicycle		Pedestrian	
Lennard Rd	Walton Rd	Mariposa Ave	C /22.1	NA	NA	B	2.22	B	2.49
	Mariposa Ave	US 1		NA	NA	C	2.91	E	4.58
Mariposa Ave	US 1	Lennard Rd	C /23.3	NA	NA	B	2.23	C	2.98
Tiffany Ave	US 1	Lennard Rd	D /19.4	NA	NA	B	1.72	B	2.29
US 1	Huffman Rd	Walton Rd	D/17.8	C	3.00	C	2.58	C	3.35
	Walton Rd	Tiffany Ave		C	3.00	C	2.90	E	5.15
	Tiffany Ave	Mariposa Ave		C	3.00	C	2.91	E	5.18
	Mariposa Ave	Lennard Rd		C	3.00	C	2.68	D	3.96
Village Green Dr	US 1	Walton Rd	C/25.2	NA	NA	B	1.82	B	1.54
	Walton Rd	Tiffany Ave		NA	NA	B	2.46	D	4.07
Walton Rd	US 1	Village Green Dr	B/30.5	NA	NA	B	2.17	B	2.29
	Village Green Dr	Lennard Rd		NA	NA	C	2.53	C	2.67
Weighted Average Existing Roads:				**C**	**3.00**	**B**	**2.39**	**C**	**3.29**
New Road A	Village Green	Walton Road	NA	NA	NA	B	1.50	B	1.50
New Road B	Village Green	Walton Road	NA	NA	NA	B	1.50	B	1.50
Village Green Extension	Tiffany Avenue	Hillmoor Road	NA	NA	NA	B	1.50	B	1.50
	Hillmoor Road	Jennings Road		NA	NA	B	1.50	B	1.50
	Jennings Road	New Road C		NA	NA	B	1.50	B	1.50
Rushing Land Extension	Walton Rd.	Tiffany Ave.	NA	NA	NA	B	1.50	B	1.50
	Tiffany Ave.	Hillmoor Road		NA	NA	B	1.50	B	1.50
	Hillmoor Road	Jennings Road		NA	NA	B	1.50	B	1.50
	Jennings Road	Mariposa Avenue		NA	NA	B	1.50	B	1.50
Hillmoor Road Extension	Tiffany Avenue	Town Center A	NA	NA	NA	B	1.50	B	1.50
	Village Green Ext.	Lennard Rd.		NA	NA	B	1.50	B	1.50
New Road C	US 1	Rushing Extended	NA	NA	NA	B	1.50	B	1.50
New Road D	US 1	Rushing Extended	NA	NA	NA	B	1.50	B	1.50
New Road D	Rushing Extended	Lennard Road	NA	NA	NA	B	1.50	B	1.50
Greenway	Village Green	Mariposa Avenue	NA	NA	NA	A	1.00	A	1.00
Sub-Total New Facilities:				NA	NA	**A**	**1.28**	**A**	**1.28**
Total:				**C**	**3.00**	**B**	**1.85**	**B**	**2.32**

*Transit LOS is from ART-PLAN. The score is derived based on ranges in Table 2 of Technical Memorandum 3. NA indicates no transit service on the segment

Sensitivity Analysis

District-wide ART-PLAN results for four different bicycle and pedestrian improvement scenarios were developed and compared to determine how well ART-PLAN measures the impact of alternative types of improvements. Transit was not included in this analysis because of limited transit improvement options within the CRA. The first scenario assumes no pedestrian and bicycle improvements. The second assumes sidewalks and bike lane improvements to existing roads to eliminate any existing gaps in the pedestrian and bicycle system. The third assumes an internal pedestrian and bicycle network is developed as a way to divert pedestrian and bicycle trips off congested roadways in the CRA and that no improvements are made along existing roadways. The fourth assumes the internal network is built and that improvements are made to fill in the gaps along the existing roadways.

Results from these four scenarios show positive changes in the scores and LOS among the scenarios (Table 4). Assuming no pedestrian or bicycle improvements, the district wide LOS for pedestrians is D and for bicycles is C, which is the existing LOS for these modes. The LOS improves by one letter grade under all scenarios and two letter grades for the pedestrian with all improvements scenario.

Table 4 – District-wide LOS Under Alternative Improvement Scenarios

Scenario	Pedestrian and bicycle improvements to existing roads?	New pedestrian and bicycle system?	Bicycle LOS and Score	Pedestrian LOS and Score
1	No	No	C – 2.87	D – 3.92
2	Yes	No	B – 2.39	C – 3.29
3	No	Yes	B – 2.10	C – 2.65
4	Yes	Yes	B – 1.85	B – 2.32

One thing to note in reviewing the LOS results is the relationship between the LOS scores and grades. LOS grades change at score thresholds and because of this there may not always be consistency in how the measures change. For instance, if a score is just above a threshold, then a slight change in score will result is and grade change. A score high above the threshold could

drop significantly and not change the grade. Therefore, changes in scores as well as grades were observed during the sensitivity analysis. For the ART_PLAN sensitivity analysis, scores dropped, as expected, for all scenarios with the magnitude of the drop higher with more improvements assumed in the scenario, indicating that ART-PLAN reasonably reflects the benefits of transit, pedestrian and bicycle improvements.

QUALITY OF SERVICE FACTORS

As noted in Technical Memorandum 3: Existing Conditions Analysis for the Village Green Multimodal Transportation District, three key factors affect the "quality of service" in a MTD that are not considered by FDOT's ART-PLAN model, as follows:

1. Urban form, characterized as the density, diversity and design of land uses;
2. Population and employment accessibility to transportation facilities; and
3. Transportation facility connectivity.

The district-wide LOS results were adjusted as described in the following sections.

Urban Form in the CRA

As noted in Technical Memorandum 3, the potential of a multimodal district to support and encourage the use of alternative modes of transportation is influenced by the density of development, the diversity (or mix) of adjacent land uses, and urban design characteristics. The measures of density, diversity and design, and the targets for the MTD, are presented in Table 5. Details of each measure are provided in Technical Memorandum 3.

For each factor, a rating of "good," "moderate" or "poor" reflects urban form conditions relative to the objectives of the MTD. The ratings then are used to modify the unadjusted LOS scores from ART-PLAN. A "good" rating reduces the LOS score by 0.80, a "poor" rating raises the score by 1.20 and a "moderate" rating does not change the score.

The future development potential in the Village Green CRA as envisioned by the Master Plan and the Design Guidelines was used to calculate the urban form measures. Table 6 presents district-wide urban form results. Details of how the scores were developed are provided in Appendix C.

Table 5 – Urban Form Characteristics Rating

Urban Form Characteristic	Urban Form Rating		
	Poor	***Moderate***	***Good***
Density			
Dwelling units per net acre	Less than 5	5 to 10	More than 10
Floor area ratio	Less than 0.3	0.3 to 1.0	More than 1.0
Diversity			
Jobs / population index	Less than 0.3	0.3o 0.6	More than 0.6
Land use mix index	Less than 1	1 to 2	More than 2
Design			
Network connectivity and accessibility			
Travel path index	Less than 3	3 to 5	More than 5
Path and diversity index	Less than 3	3 to 12	More than 12
Clearly defined, proximate paths			
Building footprint/open area ratio	Less than 0.3	0.30 to 0.60	More than 0.60
Building setbacks (feet)	More than 20	10 to 20	Less than 10
Building street frontage percentage	Less than 30	30 to 70	More than 40

Table 6 – Future Urban Form Ratings

Urban Form Characteristic	Urban Form Rating		
	Value	***Grade***	***Score***
Density			
Dwelling units per net acre	8.9	Moderate	1.00
Non-residential Floor area ratio	0.77	Good	0.80
Diversity			
Jobs / population index	0.42	Moderate	1.00
Land use mix index	1.10	Good	0.80
Design			
Network connectivity and accessibility			
Travel path index	3.84	Moderate	1.00
Path and diversity index	4.23	Moderate	1.00
Clearly defined, proximate paths			
Building footprint/open area ratio	.50	Moderate	1.00
Building setbacks (feet)	15	Moderate	1.00
Building street frontage percentage	50	Moderate	1.00
District-wide average		**Moderate**	**0.95**

The district-wide average is 0.95, which slightly lowers the unadjusted LOS score for the CRA. Table 7 presents how the urban form factor influences the LOS for each of the four pedestrian and bicycle improvement scenarios. While the scores drop for all scenarios, the adjustment does not improve the LOS.

Table 7 – District-wide LOS with Urban Form Adjustment

Pedestrian and bicycle improvements to existing roads?	New pedestrian and bicycle system?	Bicycle LOS and Score		Pedestrian LOS and Score	
		Unadjusted	Adjusted	Unadjusted	Adjusted
No	No	C – 2.87	C – 2.73	D – 3.92	D – 3.72
Yes	No	B – 2.39	B – 2.27	C – 3.29	C – 3.13
No	Yes	B – 2.10	B – 2.00	C – 2.65	C – 2.52
Yes	Yes	B – 1.85	B – 1.76	B – 2.32	B – 2.20

Accessibility Index

FDOT recommends an accessibility index for multimodal transportation districts that reflects the proportion of the total MTD population and employment in close proximity to pedestrian and bicycle facilities. The index is calculated using quarter-mile buffer zones around walking paths and half-mile buffers around bicycle paths within the CRA. The radius of the buffer zone represents the distance a potential user likely will travel to access a walking or bicycling path.

Like the urban form factors, the accessibility index is used to adjust the LOS score. The LOS score is reduced when accessibility is high and increased when accessibility is low. Table 8 presents the district-wide accessibility index for bicycle and pedestrian modes.

Table 8 – Accessibility by Percent of Jobs/Households Served

Percentage of Households and Jobs Served	LOS Grade	Accessibility Index
>= 90%	A	0.90
>=80%	B	0.95
>=70%	C	1.00
>=60%	D	1.10
>=50%	E	1.15
<50%	F	1.20

Under all improvement scenarios, the pedestrian and bicycle buffer zones cover 100 percent of the total area in the CRA, resulting in a LOS adjustment of 0.90. Table 9 presents how the accessibility adjustment modifies the LOS results for the CRA. Scores improved under all scenarios slightly, with LOS improving only for the pedestrians under the pedestrian and bicycle network only scenario (highlighted in Table 9).

Table 9 – District-wide LOS with Accessibility Adjustment

Pedestrian and bicycle improvements to existing roads?	New pedestrian and bicycle system?	Bicycle LOS and Score		Pedestrian LOS and Score	
		Unadjusted	Adjusted	Unadjusted	Adjusted
No	No	C – 2.87	C – 2.58	D – 3.92	D – 353
Yes	No	B – 2.39	B – 2.15	C – 3.29	C – 2.96
No	Yes	B – 2.10	B – 1.89	C – 2.65	B – 2.38
Yes	Yes	B – 1.85	B – 1.67	B – 2.32	B – 2.09

Connectivity Index

The connectivity index is another measure recommended by FDOT for a MTD. The local street network in a MTD should be designed to promote accessibility through interconnectivity for all modes of transportation. As noted in the urban design section, a well-connected grid pattern is the most functional design in most communities, since it provides a variety of travel paths for all modes.

Like the urban form and accessibility indexes, a connectivity index score of 1.0 indicates that the area's connectivity neither positively or negatively influences the LOS. A score less than 1.0 indicates a positive influence, and a score greater than 1.0 indicates a negative influence.

The connectivity indexes for each of the travel modes are defined as:

- **Bicycles** This index is calculated by dividing the number of street links by the number of nodes, including intersections, cul-de-sacs, and dead-ends (Table 10).
- **Pedestrians** The pedestrian connectivity index is calculated by computing the number of termini per square mile in each MTD (Table 11).

Table 10 – Bicycle LOS and Connectivity Index Ranges

Links/Nodes Ratio	Connectivity Index	LOS Grade
>2.00	0.90	A
1.50 – 1.99	0.95	B
1.00 – 1.49	1.00	C
0.50 – 0.99	1.10	D
0.10 – 0.49	1.15	E
0.05 – 0.09	1.20	F

Table 11 – Pedestrian LOS and Connectivity Index Ranges

Termini Per Square Mile	Connectivity Index	LOS
0.00 – 0.99	0.90	A
1.00 – 1.49	0.95	B
1.50 – 1.99	1.00	C
2.00 – 2.49	1.10	D
2.50 – 2.99	1.15	E
3.00 – 3.99	1.20	F

The existing bicycle and pedestrian connectivity levels of service and index scores for the Village Green CRA under each of the improvement scenarios are shown in Table 12. The scores were estimated based on the development potential map, and assume that new development will not add new termini to the network to make conditions any worse than they are, which is poor, nor appreciably improve the link/node ratio, which is already good. In essence, development will not significantly alter existing connectivity in the CRA.

Table 12 – District-wide LOS with Connectivity Adjustment

Ped. and bicycle imp. to existing roads?	New ped. and bicycle system?	Bicycle		Pedestrian		Bicycle LOS / Score		Pedestrian LOS / Score	
		Index	Score	Index	Score	Unadjusted	Adjusted	Unadjusted	Adjusted
1. No	1. No	1.92	0.95	4.10	1.20	C – 2.87	C – 2.73	D – 3.92	E – 4.70
2. Yes	2. No	2.50	0.90	1.20	0.95	B – 2.39	B – 2.15	C – 3.29	C – 3.13
3. No	3. Yes	2.50	0.90	3.50	1.20	B – 2.10	B – 1.89	C – 2.65	C – 3.18
4. Yes	4. Yes	2.50	0.90	1.20	0.95	B – 1.85	B – 1.67	B – 2.32	B – 2.20

Assuming no pedestrian improvements are made to fill the existing gaps in the pedestrian network, the pedestrian indexes and scores remain high, resulting in a drop in the LOS (Table 12). This higher score for the scenario with an internal pedestrian system is misleading, because the internal network does provide improved connectivity. Unfortunately; the termini density measure does not provide a way to address this benefit. Because of this, it is recommended that the bicycle connectivity index (links / intersection ratio) be used for pedestrians as well.

For bicycles, improvements in the unadjusted LOS scores are similar to the urban form and accessibility adjustments. Scores decrease slightly and the LOS does not improve under any of the scenarios.

Cumulative Adjusted LOS

The unadjusted district-wide LOS score generated using FDOT's ARTPLAN model was modified to determine the district-wide *adjusted* LOS using the urban form, accessibility and connectivity QOS results. The bicycle connectivity index (links/intersection ratio) was used for the pedestrian scenario rather than the termini density measure because of problems noted in the last section. Table 13 summarizes the results of the adjustments.

Table 13 – District-wide LOS with All Adjustments

Ped. and bicycle imp. to existing roads?	New ped. and bicycle system?	Cumulative Bicycle Adjustment	Cumulative Pedestrian Adjustment	Bicycle LOS / Score		Pedestrian LOS / Score	
				Unadjusted	Adjusted	Unadjusted	Adjusted
1. No	1. No	0.81	0.81	C – 2.87	B – 2.32	D – 3.92	C – 3.18
2. Yes	2. No	0.77	0.77	B – 2.39	B – 1.84	C – 3.29	C – 2.53
3. No	3. Yes	0.77	0.77	B – 2.10	B – 1.62	C – 2.65	B – 2.04
4. Yes	4. Yes	0.77	0.77	B – 1.85	A – 1.42	B – 2.32	B – 1.78

The cumulative adjustment factor decreases the LOS scores for all scenarios and LOS improves for four of the eight scenarios (highlighted in Table 13). The combined results of ARTPLAN and the QOS result in better levels of services than what exists today, and better than what can be expected in the future if no improvements are made. Consequently, the analysis demonstrates that the methodology does reasonably reflect the higher targets set by new development patterns and multimodal improvements. These higher targets can be translated into LOS standards.

DISTRICT WIDE LOS STANDARDS

As noted in the previous section, the ARTPLAN LOS results and QOS adjustments for the CRA, which assume the development concept and improvements presented in Figure 1,

reasonably reflect expectations for the MTD and can be used to set LOS standards (Table 14). It should be noted that the links/intersection ratio is used for the pedestrian and transit connectivity adjustment.

The district-wide analysis suggests that the transit, pedestrian and bicycle LOS standard for the CRA should be set at B. The bicycle standard could be set at A based on the results, but it is recommended that it be set at B for consistency with the other modes. These standards are higher for each mode than the existing LOS and provide improvement-based targets for the MTD.

The recommended LOS standards are lower than what is typical for automobiles (either D or E), however, a higher LOS standard for alternative modes of transportation will promote the improvements needed to shift people from cars into the other modes.

Table 14 – District-wide (Adjusted) Transit, Bicycle & Pedestrian LOS

Mode	Existing LOS	Unadjusted		Urban Form Factor	Access. Index	Connect. Index	Adjusted	
		LOS	LOS Score				LOS Score	LOS Grade
Transit	E	C	3.00	0.95	0.90	0.90	2.31	B
Bicycles	C	B	1.85	0.95	0.90	0.90	1.42	A
Pedestrians	D	B	2.32	0.95	0.90	0.90	1.78	B

SITE LEVEL ASSESSMENT

The final step in the analysis was testing the MTD methodology for a hypothetical site plan / concurrency review. The hypothetical site is located on US 1 and the concurrency impact area includes the US 1 segment from Lennard Road to Huffman Road. The existing levels of service on the segment are presented in Table 15. Assuming the transit, pedestrian and bicycle LOS standards are B, the segment currently meets concurrency for bicycles, but fails for pedestrians and transit. The developer must make on and off-site improvements to improve the LOS for these modes in order to meet concurrency.

Table 15 – Existing Levels of Service on US 1

Mode	Existing		Urban Form	Access	Connect	Adjusted	
	Score	LOS				Score	LOS
Auto	NA	D	NA	NA	NA	NA	D
Pedestrian	3.98	D	1.1	0.9	0.9	3.55	D
Bicycle	2.65	C	1.1	0.9	0.9	2.36	B
Transit	4.00	D	1.1	0.9	NA	3.96	D

Table 16 illustrates how the developer can make improvements needed to meet concurrency. First, the developer agreed to fund increased transit headways and to extend daily service hours along US 1. The improvements were entered into ARTPLAN and the transit LOS increased to C. Second, the developer agreed to upgrade the sidewalk along US 1 so that it is further separated from the roadway, increasing the ARTPLAN calculated LOS to C. During negotiations, reviewers and the developer agreed to use the money needed for the US 1 sidewalk improvement to pay for portions of the internal bike and pedestrian network within the CRA. Third, the developer prepared a site plan with the density, diversity and transit oriented design features that result in a "good" urban form rating, resulting in a 0.80 adjustment factor. With these improvements, the developer met concurrency and the site plan was approved.

Table 16 – Modified Levels of Service on US 1

Mode	Improved		Urban Form	Access	Connect	Adjusted	
	Score	LOS				Score	LOS
Auto	NA	D	NA	NA	NA	NA	D
Pedestrian	3.55	C	0.8	0.9	0.9	2.30	B
Bicycle	2.65	C	0.8	0.9	0.9	1.72	B
Transit	3.00	C	0.8	0.9	0.9	1.94	B

CONCLUSIONS

The future conditions analysis of the Multimodal Transportation District (MTD) proposed for the Village Green Community Redevelopment Area (CRA) in Port St. Lucie identified how development pattern changes and roadway, transit, bicycle and pedestrian improvements in the

CRA affect the existing levels of service (LOS) documented in Technical Memorandum Three – Existing Conditions Analysis for the Village Green Multimodal Transportation District. The analysis found that development changes and transportation improvements did raise the LOS for all non-auto modes and the results can be used to set the LOS standards for the CRA.

Sensitivity analysis was conducted to determine whether the factors used to measure LOS do, in fact, move in the right direction and whether they respond too little or too much to changes in urban form or transportation improvements. The analysis found that:

- The unadjusted ART-PLAN LOS scores react as expected to multimodal friendly urban design and pedestrian and bicycle improvements. The level of change in the scores and LOS determinations was not significantly altered, suggesting that more sensitivity may be needed in the ART-PLAN analysis. The Quality of Service (QOS) factors are a means of incorporating this sensitivity.

- The urban form QOS factors improve scores and LOS as expected, but not by a significant degree. However, when combined with the ARTPLAN changes, the QOS did appreciably change scores.

- The accessibility QOS measures do not provide much specificity when measuring access to pedestrian and bicycle facilities. As noted in the existing conditions tech memo, the analysis found that accessibility is good throughout the CRA, even though this may not truly reflect existing conditions. In the future conditions analysis, accessibility was the same under each of the improvement scenarios and was not much of a discriminator. However, when combined with the urban form measures that address access in more detail, the accessibility measure provides a reasonable adjustment to the ARTPLAN LOS.

- The connectivity QOS bicycle links/intersections ratio improved bicycle scores. However, the pedestrian measure of termini per square mile did not improve pedestrian scores for the scenario that assumed existing dead end streets or gaps in the pedestrian network were not closed yet other improvements, such as off facility paths, are made. This is compounded by the ARTPLAN analysis not being able to effectively recognize off roadway bike and pedestrian improvements. Credit should be given to those off-roadway bike can pedestrian improvements that provide connectivity. This problem can be addressed procedurally. For example, the developer can identify on-roadway bike and pedestrian improvements needed to change LOS, cost out the improvements, then divert the money to fund an off-roadway network. This approach was suggested in the hypothetical site review. Another way to resolve the problem and simplify the methodology is to use the bicycle links/intersection ratio for pedestrians. A third alternative is to use the polygon density method recognized by the Florida Department of Transportation or the path density method described in this memorandum.

Overall, the future conditions analysis found that ARTPLAN in combination with the QOS adjustments do respond correctly and reasonably to changes in development patterns and multimodal improvements at both the district and site levels. With district-wide development changes and improvements, the transit and pedestrian levels of service were "B" and the bicycle LOS was A. Based on these results, it is recommended that a LOS standard of B be set for the CRA for each of the non-auto modes. At the site level, the hypothetical site plan demonstrated how a developer could meet the LOS B standard in ways that achieve the intended multimodal outcomes for the CRA. In sum, the methods and procedures presented in Technical Memoranda 3 and 4 are suitable for concurrency evaluations that attain the multimodal objectives of the Community Centers recommended in Phase I of the Regional Land Use Study.

APPENDIX A: FSUTMS RESULTS

APPENDIX B: ART-PLAN RESULTS

APPENDIX C: URBAN FORM RESULTS

TECHNICAL MEMORANDUM 5: DEVELOPMENT REVIEW INTERACTIVE WORKSHEET

Prepared for:

TREASURE COAST REGIONAL PLANNING COUNCIL

Prepared by:

RENAISSANCE PLANNING GROUP

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DEVELOPMENT REVIEW INTERACTIVE WORKSHEET

INTRODUCTION

Phase I of the Martin and St. Lucie County Regional Land Use Analysis recommends a land use and transportation vision for the study area that generally extends from Ft. Pierce to south of Stuart and west to I-95 that includes strategically located Community Centers to promote multimodal transportation. These Community Centers are activity centers featuring a mix of moderate to high-density land uses oriented to transit stations and that encourage internal travel by walking and bicycle, rather than automobiles.

As a result of this planning process, several tools are available to for implementation, including Comprehensive Plan policies, Design Performance and Implementation Guidelines, several Technical Memoranda, and a Development Review interactive worksheet. This Technical Memorandum describes the development and use of the Development Review interactive worksheet to facilitate implementation of the Community Center concept. The urban design measures presented in this memorandum are the same as those recommended for the Multimodal Transportation District, as described in Technical Memorandum 4, and can be used as inputs to the MTD analysis should the Community Center be designated as a MTD.

COMMUNITY CENTER IMPLEMENTATION

Achieving the design and accessibility standards of Community Centers requires careful attention to several factors and indicators during the development review process. As development and redevelopment is proposed for a Community Center, implementation of the design and urban form characteristics will help to achieve the Community Center's goals and potential. The urban form characteristics, described in detail in Technical Memorandum 3, Design Guidelines, are summarized on the next page (Table 1). The table also summarizes the performance measures site reviewers can use to evaluate how well a site plan achieves the desired design characteristics for a Community Center. Discussion of the "scoring" of these

characteristics to evaluate proposed development and redevelopment projects follows the summary table.

Table 1: Urban Form Characteristics

Indicator	Measure	Calculation
Floor Area Ratio	Building intensity and site development	Divide the sum of the net floor area of all buildings on a site by the developable site area
Density	Development density by units per acre	Divide the number of dwelling units by the acreage of the development site
Land Use Mix	Land use diversity	Divide the land use with the least area by the land use with the most area and multiply by the number of land uses
Employment/Population Index	Jobs-housing balance	Divide the lesser of population or employment totals by the higher total
Travel Path Index	Connectivity	Divide by site area by 1,000 and divide into the total linear footage of paths
Path and Diversity Index	Relationship between design standards and land use diversity	Multiply the land use mix index and the travel path index
Building Footprint/Open Area Ratio	Building coverage and open space on a development parcel	Divide the square footage of building area by the square footage of undeveloped building area
Building Setbacks	Relationship of building to the street	Measure the distance of the building edge from the parcel line in linear feet
Building Street Frontage	Presence of an uninterrupted enclosure by buildings on the street or "streetwall"	Calculate the percentage of building site covered by the building or other vertical construction

Source: Renaissance Planning Group

Evaluating Urban Form Characteristics

The ability of a Community Center to facilitate greater use of alternative modes of transportation relies on the density of development, the land use mix in and near the Community Center, and urban design characteristics. The urban form measures of density, diversity and design, as outlined by researchers Michael Bernick and Robert Cervero in their influential work Transit Villages for the 21st Century, were detailed in Technical Memorandum 4. The land use pattern and community character in the Community Center, in part, determine appropriate urban

form characteristics. However, general standards may be identified as a starting point for suitability analysis.

For evaluation of urban form characteristics in the development review process, desirable thresholds for these characteristics are reviewed below:

Density Indicators

- **Net residential dwelling units per acre** For multimodal planning, a higher number of dwelling units per acre is positive and transit-supportive. Fewer than three dwelling units per acre is considered low density development. Greater than ten dwelling units per net acre is considered high density.

- **Non-residential floor area ratio (FAR)** This ratio measures non-residential density, with higher FARs more supportive of alternative transportation modes. The appropriate FAR also depends on the community context and location. For example, a standard FAR in a downtown or urban core setting would be much higher than a standard FAR in suburban setting. Generally speaking, a FAR of less than 0.30 is low density development. This FAR is illustrated by a one story building with the building on less than 30 percent of the lot and parking and stormwater facilities over most of the lot. In contrast, a FAR over 1.0 likely is a multi-story building with lot coverage of 50 percent or more. A higher FAR is more positive for the Community Center, as it brings additional concentrations of employment, goods, and services to the Community Center.

Diversity Indicators

- **Jobs / population index** This index measures the balance between residential and non-residential development in an area by dividing the lesser of population or employment by the higher of the two indicators. This calculation results in a range from zero to one, with a higher score indicating a better balance between these indicators and being more positive for the Community Center. To illustrate, the score for an area with 50 jobs and 50 residents is 1.0 (0.5/0.5), while the score for an area with 90 jobs and 10 residents is 0.11 (0.1/0.9).

- **Land use mix index** This measure is similar to the jobs/population index, but uses land use acreage to measure land use diversity. As with the employment/population index, the land use with the least area is divided by the land use with the most area. The number of represented land uses then is multiplied by this ratio to calculate the index. If there are land uses in a very low proportion of the total area, the index should be calculated with and without those uses and the higher of the scores used. Higher scores are positive, as demonstrated in the following example. The index score for an area with two uses (80 acres residential and 20 acres civic) is 0.5 (20/80*2). The score for an area with four uses (40 acres retail, 20 acres office, 20 acres institutional and 20 acres civic) is two (20/40*4). A

greater mix of land uses is more supportive of the Community Center, as this mix results in shorter trip lengths to reach goods, services, and employment.

Design Indicators

- **Travel path index** To evaluate travel paths, the linear feet of sidewalks, multiuse trails, greenways, or other paths is calculated per 1,000 square feet of site area. To note the extent of a connected network of paths, the measure only includes travel paths that connect to areas beyond a site and excludes cul-de-sacs or dead end paths. Half the lengths of paths on the edges of an area are counted to accommodate sharing among adjacent parcels. The travel path index for a rectangular area that is 2000 feet by 800 feet (1,600,000 square feet) and that has one path in each direction (2,000 feet and 800 feet, or 2,800 feet of travel paths) is 1.75 (2,800/(1,600,000/1,000).

- **Path and diversity index** This measure combines the land use mix index and the travel path index to note the relationship between design and diversity, as the land use mix index does not measure the accessibility of land uses and the travel path index only measures accessibility. The path and diversity index is calculated by multiplying the land use mix and the travel path indices, with a higher index reflecting better integration of design and diversity goals for the Community Center.

- **Ratio of direct versus indirect connections with surrounding streets** This measure is designed to encourage the development of travel paths that connect directly with off-site paths. A higher ratio is more consistent with the goals of the Community Center.

- **Ratio of building footprint to unused open and off-street parking area** This ratio measures both density and accessibility. Higher ratios reflect less open space among buildings, increasing building intensity and improving accessibility to land uses.

- **Building setbacks** This measure of the distance between the front door of buildings and travel paths identifies buildings that have "build-to lines", creating "streetwalls" that better define the path, provide a sense of protection and enclosure, and create more interesting pedestrian environments. Smaller building setbacks support the goals of the Community Center.

- **Building street frontage percentage** This measure complements the building setback measure by identifying gaps in buildings that isolate buildings in a manner similar to that of large setbacks. Higher percentages are more beneficial for Community Center implementation.

In the Development Review interactive worksheet, a rating of "Good," "Moderate", or "Poor" is assigned to each factor listed above to estimate existing urban form conditions. These measures should be tailored to the community standards and land use policies of each

jurisdiction to accommodate local conditions in the development review process. General ratings for each urban form characteristic are noted on the following page (Table 2) as a starting point for adaptation.

Table 2: General Ratings for Urban Form Characteristics

Urban Form Characteristic	Urban Form Rating		
	Poor	***Moderate***	***Good***
Density			
Dwelling units per net acre	Less than 5	5 to 10	More than 10
Floor area ratio	Less than 0.3	0.3 to 1.0	More than 1.0
Diversity			
Jobs / population index	Less than 0.3	0.3 to 0.6	More than 0.6
Land use mix index	Less than 1	1 to 2	More than 2
Design			
Network connectivity and accessibility			
Travel path index	Less than 3	3 to 5	More than 5
Path and diversity index	Less than 3	3 to 12	More than 12
Clearly defined, proximate paths			
Building footprint/open area ratio	Less than 0.3	0.30 to 0.60	More than 0.60
Building setbacks (feet)	More than 20	10 to 20	Less than 10
Building street frontage percentage	Less than 30	30 to 70	More than 40

Using the Development Review Interactive Worksheet

The Development Review interactive worksheet is designed to facilitate the application of urban form characteristics to proposed development or redevelopment projects in the Community Center during the development review process. The worksheet is a Microsoft Excel spreadsheet that calculates the indices and ratios from the input of project information. The worksheet also allows comparison of indices, ratios and project information to the ideal design urban form characteristics within the worksheet, as well as adaptation of these standards to local conditions.

To use the worksheet, a determination should be made if default thresholds for rating urban form characteristics require modification to adapt to local conditions. The Review Thresholds table in the Input_Output sheet of the worksheet allows users to modify these thresholds. The Review Thresholds table contains specific thresholds for the Core, General, and Edge areas of the Community Center, as defined in the Design, Performance and Implementation Guidelines.

Once the thresholds for urban form characteristics are calibrated appropriately, the project data may be entered for comparison to these thresholds. Project data is entered in the Project Information table in the Input_Output sheet of the worksheet for automated calculation and comparison to thresholds. Results of this analysis are located in the Project Rating by Urban Form Characteristics table in the Input_Output sheet of the worksheet. All input cells are blue in color, and all calculated cells are yellow in color, clearly delineating input and output areas.

To provide additional information for more detailed comparisons, the Reference sheet of the worksheet includes several reference guides. These guides include a summary table with the Design, Performance and Implementation Guidelines for Core, General, and Edge areas of the Community Center, as well as descriptions of urban form characteristics and employment assumptions for the jobs/population index. These references are provided for user review and comparison, as needed.

Applying the urban form characteristics to various types of projects at various stages of the development review process likely will require that several assumptions be used and documented in the worksheet. For example, development review submittals for mixed-use projects often will identify a range of allowable uses on individual tracts within the project. Projecting the land use mix index requires an assumption about how many land uses ultimately may be developed in the project. It also requires this assumption for the jobs/population index, as the project's employment generation will vary by the type of land use.

Other assumptions may be needed based on the project's status in the overall development review process. In the early stages of some jurisdiction's development review process, a proposed project may have a concept plan or "bubble plan" under review that primarily identifies proposed land uses. This type of plan may not offer the site development data necessary for calculation of the project's travel path index, building footprint/open area ratio, and other urban form indices. If needed, assumptions may be made for input into the worksheet. These assumptions may be based on the Community Center Design, Performance and Implementation Guidelines, market considerations in the area, or the minimum standards of the jurisdiction's Land Development Code.

For mixed-use projects, other decisions may be needed about whether to use average or median densities and floor area ratios to account for the range proposed for different tracts in a

mixed use project. In projects where densities and floor area ratios vary widely, use of medians may be more representative of the project as a whole. In contrast, other tracts in a project may be reserved for "future development", with no information currently available. The user may wish to remove these tracts from current consideration of site dimensions based on this uncertainty.

For single-use projects, other considerations are needed for appropriate review using the worksheet. For example, the jobs/population index is not applicable to single-use projects featuring either employment or housing. Also, the land use mix index and path and diversity index similarly are difficult to apply to these projects. For review purposes, it is possible to assess the impact of the project on the indices for the Community Center at the block level or as a whole to note the project's relationship with and contribution to the Community Center.

SUMMARY

Successful implementation of the Community Center concept relies on the consideration of several urban form characteristics during the development review process to ensure proposed development and redevelopment is consistent with the land use, design, and mobility goals of the Community Center.

Appropriate thresholds for urban form characteristics used in the development review process should be tailored to a community's local policy and land development context. These revisions can be informed by the Design, Performance and Implementation Guidelines, which provide detailed performance standards for these areas.

Use of the Development Review interactive worksheet can facilitate review of development and redevelopment proposals in the Community Center, but may require several assumptions, depending on the project status and project type.

TECHNICAL MEMORANDUM 6: COMPREHENSIVE PLAN AND LAND USE REGULATION REVIEW

Prepared for:

TREASURE COAST REGIONAL PLANNING COUNCIL

Prepared by:

RENAISSANCE PLANNING GROUP

June 2003

COMPREHENSIVE PLAN AND LAND USE REGULATION REVIEW

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COMPREHENSIVE PLAN AND LAND DEVELOPMENT REGULATION REVIEW

INTRODUCTION

The following report presents a review of the land use and transportation plans and associated land development regulations for St. Lucie and Martin Counties and the Cities of Fort Pierce, Port St. Lucie, and Stuart. This review was recommended in Phase I of the Martin and St. Lucie County Alternative Land Use Assessment, commissioned by the Treasure Coast Regional Planning Council (TCRPC).

Tables 1 and 2 are organized around the Smart Growth Network's (SGN) Smart Growth ten policies and 100 principles, which encompass the strategies required to support the goals of the Phase 1 study. The principles and policies are also the basis for a national survey on progress with smart growth implementation, which is being conducted as part of this Phase II study and is presented in Technical Memorandum 7. Table 1 is a matrix identifying how the local plans and land development codes and ordinances relate to the 100 smart growth policies, and Table 2 is a narrative summary of how the plans and ordinances address the ten major smart growth principles.

Smart Growth Principles:

1. Mix land uses
2. Take advantage of compact building design
3. Create a range of housing opportunities and choices
4. Create walkable communities
5. Foster distinctive, attractive communities with a strong sense of place
6. Preserve open space, farmland, natural beauty, and critical environmental areas
7. Strengthen and direct development towards existing communities
8. Provide a variety of transportation choices
9. Make development decisions predictable, fair and cost effective
10. Encourage community and stakeholder collaboration in development decisions

Source: Getting to Smart Growth, Smart Growth Network/ICMA, March 2002

Table 3 focuses on how the plans and ordinances relate to the major recommendations from the Phase I study, which included creating mixed use activity centers throughout the region *(Map 1)* and investing in supportive transportation infrastructure (Map 2).

Overall Comments on Land Use and Transportation Plans

The land use and transportation plans of the five localities are supportive of the principles of smart growth and the vision from the Phase 1 study. In many cases, however, the high level of support has only recently been increased, so many of the supportive policies indicate commitments to exploring or developing smart growth planning or implementation tools, but not actual programs for so doing. The bulk of the work, therefore, will be in ensuring that the goals and visions expressed by the policies are actually put in place during the next few years through the following implementation strategies:

a) Regulatory tools, such as ordinances controlling the placement, development and design of buildings, streets, and activity centers;
b) Incentive programs, such as funding programs and "fast-track" approval for affordable housing and rural area preservation; and
c) Infrastructure investments, such as local capital improvement programs and MPO and State Transportation Improvement Programs.

Overall Comments on Land Development Regulations

The level to which regulations support plans varies a fair amount among the localities. All the regulations provide for open space, some mixing of uses in or adjacent to residential areas, and a range of housing densities and types. None appear to have major conflicts with the plans or the vision from the Phase I study, but some are much more proactive and forceful than others in their support of targeted, walkable, mixed use development areas and affordable housing. One potential conflict in some localities is a requirement that local streets be physically separated from major streets, in an effort to reduce through traffic in neighborhoods. This may present problems when trying to develop more connected street and sidewalk systems and can have the effect of forcing more local trips than necessary onto congested arterials.

The Martin County Mobility standards and traffic calming program (Figure 4) provide a useful model for addressing this situation. The Stuart regulations include a variety of innovative

financing and regulatory tools that also provide some models for other localities to consider, such as the Payment in Lieu of Parking Program and active use of Community Redevelopment Areas to finance and regulate design for targeted areas. The Stuart and Martin regulations also include some useful graphics that help illustrate desired design standards. All the regulations could benefit from more graphic summaries and examples of the desired development patterns.

Specific Comments on Existing Plans and Regulations

Rows highlighted in Table 1 indicate smart growth policies that have not been widely incorporated into local plans or regulations and may be worth evaluating in more detail. It should be noted that some of the highlighted policies might already be in one or two local plans or land development regulations. The policies that have not been widely accepted and their potential for further consideration include the following:

- 1d) **Facilitate financing of mixed use properties** Public financing of private projects in Florida is not a widespread practice and, in many cases, is not politically feasible. However, coordinating infrastructure financing through existing tools, such as Community Redevelopment Areas (CRAs), or new tools is a way to encourage integrated, walkable communities.
- 1e) **Zone areas by building type, not by use** This is a policy that may be politically feasible and is worth considering. Shifting the focus to building design will lead to mixed-use communities that are tied together by scale, rather than use. This shift in focus is essential for creating walkable communities.
- 1f) **Use flex zoning to allow developers to easily supply space in response to market demands** Given the relationship between the public and private sectors, this policy would have to be carefully implemented, but it could effectively lead to creative uses of infill parcels.
- 2a) **Use public meetings about development options to educate community members on density and compact building options** While this policy may not be incorporated into the language of policies or regulations, the localities in the region and the TCRPC are increasingly active in involving the community on density and compact building options.
- 2h) **Employ a Design Review Board to ensure that compact buildings reflect desirable design standards** The key to implementing this type of policy is clearly defining "desirable design standards."
- 3b) **Provide home buyers assistance through support to community land trusts** This is a policy that should be part of the overall affordable housing program.
- 3e) **Educate developers of multi-family housing units and nonprofits on the use of limited-equity (or equity-restriction) components** Again, this strategy should be part of the overall affordable housing program.
- 3f) **Educate realtors, lenders, and homebuyers on the use of resource-efficient mortgages** Part of the education process will be to clearly define where resource-efficient

mortgages are possible. Typically, they are used in walkable, transit-oriented places where homeowners need only one car because of the other travel options available.

- 3g) **Implement a program to identify and dispose of vacant and abandoned buildings** This could be done as part of an overall land monitoring program that maintains an active listing of all parcels.
- 3i) **Enlist local jurisdictions in implementing a regional fair-share housing allocation plan across metropolitan areas** While this language may not exist in local plans and regulations, Florida's affordable housing requirements address this allocation.
- 4f) **Require traffic calming techniques where traffic speed through residential and urban neighborhoods is excessive** Traffic calming is one of several strategies that make places walkable. The goal of "walkability" is key to creating the transit-oriented communities envisioned in the Phase I plan. Many localities, such as Martin County, have adopted level of service standards for residential streets that rely on factors other than traffic volumes to determine the need for traffic calming. They also offer neighborhoods an in-house expert to help design a traffic calming program. Such strategies are viable in the region.
- 4g) **Beautify and maintain existing and future walkways** This strategy is possible by shifting the focus of the planning and regulatory process from autos to pedestrians and bicyclists.
- 4h) **Provide people with disabilities easy access to sidewalks, streets, parks and other public and private services** This is part of the overall focus on walkable communities.
- 5a) **Modify (state) funding processes and school siting standards to preserve neighborhood schools and build new schools to a community level** Schools provide an opportunity for creating walkable, centered places. This is a policy that localities may want to explore in more detail with school districts.
- 5e) **Simplify and expedite permitting regulations to allow vendors to offer sidewalk service** This strategy is part of the focus on walkable communities.
- 6d) **Employ regional development strategies that better protect and preserve open space in edge areas** This policy and the next two policies are supported by federal and state policy and are likely to gain local political support. The Martin County Land Trust is developing a greenway plan for Martin County. This is the type of initiative that other localities and the TCRPC may want to pursue.
- 6e) **Adopt a green infrastructure plan** Please see the note with Policy 6d.
- 6f) **Create a network of trails and greenways** Walkable communities can be enhanced with this type of network of trails and greenways. The network is ultimately defined by an open space and green infrastructure plan.
- 6g) **Design and implement an information-gathering and education program** This policy should be a major part of the open space and greenway planning efforts.
- 6i) **Provide mechanisms for preserving working lands** There are a few mechanisms for preserving working lands, but more emphasis may be needed to support the open space and green infrastructure plans.
- 6j) **Partner with nongovernmental organizations to acquire and protect land** The State of Florida has been active in purchasing land, and non-profits are somewhat active in making these purchases. However, the amount of money is limited, so other strategies are needed to help protect and preserve open space.

- 7a) **Strengthen state of local brownfields programs** Redevelopment of brownfields has not been a priority in the region or elsewhere in Florida, because the rate of growth requires large sites that are easily developed. Land monitoring programs could provide developers with the ability to identify larger brownfield areas suitable for redevelopment. Along with financial incentives, noted below, this may encourage more infill development.
- 7b) **Adopt a "fix-it-first" policy that sets priorities for upgrading existing facilities** Community Redevelopment Areas and state financing options are available to prioritize funding of existing facilities. However, other financial incentives are possible, such as higher impact fees in greenfields than brownfields.
- 7c) **Institute regional tax-base sharing to limit regional competition and to support schools and infrastructure throughout the region** This policy will require a major shift in state and local law and policies. While it does offer promise, it is not a policy that can be achieved in the short term.
- 7d) **Use the split-rate property tax to encourage development on vacant or blighted pieces of land in existing communities** This is a financial strategy that may be appropriate in the region.
- 7f) **Conduct an infill checkup to evaluate and prioritize infill and brownfield sites for redevelopment** This is a strategy that could be part of the overall land monitoring system.
- 7i) C**reate economic incentives for business and home owners to locate in areas with existing infrastructure** This policy represents another possible infill-related financial incentive.
- 8d) **Connect transportation modes to one another** The Phase I study identified how this type of connection can happen. The next step is incorporating those recommendations into MPO and local plans.
- 8h) **Collaborate with employers and provide information and incentives for programs to minimize or decrease rush-hour congestion impacts** This could be an effective strategy, as congestion in the region increases and transit options become more viable.
- 8j) **Cluster freight facilities near ports, airports, and rail terminals** This policy is not evident in local plans, because of the lack of major ports and terminals in the region.
- 9d) **Engage political support for improved coordination on approval of smart growth projects** The Phase I and Phase II studies demonstrate the increasing amount of coordination among localities in the region. The model used, with TCRPC providing coordination support, is one that can be expanded in the future.
- 9e) **Use a point-based evaluation system to encourage smart growth projects** The Environmental Protection Agency's Smart Growth Index or other tools can be used to develop such a system. It should be part of an overall land monitoring system noted above.
- 9f) **Remove parking from the development equation through public-private partnership to build community parking facilities** This is a strategy that is currently being used in portions of Stuart and is viable for the proposed Phase I activity centers. Other "community infrastructure" should also be included, such as community retention areas and open spaces.
- 9g) **Encourage demand for smart growth through consumer incentives** These incentives could include transit subsidies for commuters.
- 9i) **Maximize the value of transit agency property through joint development of transit-oriented areas** This is a policy that should be pursued as transit service expands in the region.

- 10b) **Use unconventional methods and forums to educate nontraditional, as well as traditional, stakeholders about the development and decision-making processes** The recent Transportation Community and System Preservation (TCSP) effort in the region to involve high school students in planning more sustainable communities is an example of this type of educational program. Continuing similar programs would be valuable.
- 10d) **Create public access to tax and lien information on all properties to facilitate the rehabilitation of distressed properties** This could be part of the land monitoring system.
- 10e) **Incorporate opinions & interests often & routinely into the planning process** This is occurring in the region and should continue.
- 10f) **Work with the media to disseminate planning and development information on a consistent basis** This is occurring in the region and should continue.
- 10g) **Engage children through education and outreach** Please see the note with Policy 10b.
- 10h) **Cultivate relationships with schools, universities and colleges** In the past, the TCRPC has worked with Florida Atlantic University, and the TCRPC should continue these types of endeavors.
- 10i) **Bring developers and the development community into the visioning process** The Village Green demonstration project will provide an excellent example of how this can occur. The process should become a template for local plans and regulations.

SUMMARY

In summary, this review of how local plans and regulations compare with smart growth polices suggests several priorities that the TCRPC and localities can implement in the near term (Table 1). The next steps for the Phase II study will focus on how these policies and strategies can be more fully integrated into local plans and regulations.

Table 1: Priority Implementation Strategies

Priority Implementation Strategies

- Develop an **open space and greenway infrastructure plan** that includes the delineation of greenways and trails. This should be integrated with other pedestrian and bicycle infrastructure to ensure linkages to key facilities, such as schools and transit stops. Emerging resources, such as Crime Prevention Through Environmental Design (CPTED) programs, can help address safety and aesthetic issues.

- Develop a **land monitoring system** that actively tracks the status of all parcels and is easily accessed by the public and development community in search of brownfield and greyfield (i.e., failed shopping centers) development opportunities.

- Identify and implement **financial incentives to facilitate infill development** in targeted areas, such as brownfields, greyfields, and around existing or planned transit stations. Market-based strategies that involve public-private partnerships, such as Tax Increment Financing districts, have been successful in a number of communities.

- **Shift the focus** in local land development codes **from zoning by land use to regulating building types**. With this approach, building owners and occupants can decide how the mix of uses in their buildings can best fit the demands of the local market. The regulations focus on preserving the look and layout of the community by addressing characteristics such as scale, parking standards, and pedestrian accessibility, as well as monitoring impacts of changing building uses on parking, noise, and related items. This allows the mix and type of uses to evolve over time, while preserving the scale and character of the neighborhood. For example, a neighborhood that was once entirely residential could evolve to include some office space for doctors, day care, or small stores, all while maintaining its residential scale and character.

- **Shift the focus** in plans and, more importantly, local codes **from accommodating cars to accommodating the entire spectrum of modes** that support the movement of people and goods, with a priority on the safety and mobility of **pedestrians and bicyclists**. This will help make the system safer for all users by planning the speed and routing of vehicles to support the most vulnerable users, people on foot, and will facilitate the design and development of buildings that are inviting to pedestrians instead of ignoring them.

- Develop a **community infrastructure plan** with regulations and financial incentives to encourage developers to contribute to shared infrastructure (i.e., parking, stormwater management systems) rather than infrastructure that supports only their individual projects.

Table 2: Summary of How Comprehensive Plans and Land Development Regulations Relate to 100 Smart Growth Policies

X indicates locality has a policy and/or active program referenced in its comprehensive plan
Y indicates policy/program is included in Stuart CRA plan
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1. Mix land uses	Martin	Stuart	St. Lucie	Port St. Lucie	Fort Pierce
1a) Provide incentives through state funds to encourage residents to live near where they work.	N/A	N/A	N/A	N/A	N/A
1b) Adopt smart growth codes to parallel existing conventional development codes	X, Z	X, Y, Z	X, Z	X, Z	X, Z
1c) Use innovative zoning tools to encourage mixed-use communities and buildings	X, Z	X, Y, Z	Z	X, Z	X, Z
1d) Facilitate financing of mixed use properties		Y, Z			
1e) Zone areas by building type, not by use.		Y, Z			
1f) Use flex zoning to allow developers to easily supply space in response to market demands		X, Y, Z			X
1g) Convert declining shopping malls and strip commercial streets into mixed-use developments	X	X, Z		X, Z	
1h) Provide examples of mixed-use development at scales that are appropriate to your community	X, Z	X, Y, Z		X	X
1i) Create opportunities to retrofit single-use commercial and retail developments into walkable, mixed-use communities.	X, Z	X, Y, Z	X, Z	X, Z	X. Z
1j) Reward communities that create a balance between jobs and housing	N/A	Y	N/A	N/A	N/A

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2. Take advantage of compact building design	Martin	Stuart	St. Lucie	Port St. Lucie	Fort Pierce
2a) Use public meetings about development options to educate community members on density and compact building options		Y, Z		X	
2b) Ensure ready access to open space in compactly developed places	Z	X, Z	Z	Z	Z
2c) Encourage developers to reduce off-street surface parking	X, Z	X, Y, Z	Z		X
2d) Match building scale to street type in zoning and permit approval processes		Y, Z (transects)		Z	X
2e) Establish model state-level design standards and codes to encourage compact building design that can be adopted by local communities	N/A	N/A	N/A	N/A	N/A
2f) Use density bonuses to encourage developers to increase floor-to-area ratio (FAR)	X	X, Y, Z	X		X
2g) Ensure a sense of privacy through the design of homes and yards	Z	Z		Z	X, Z
2h) Employ a design review board to ensure that compact buildings reflect desirable design standards	Z	Y, Z			
2i) Offer incentives that encourage local communities to increase density	Z	Y, Z			X, Z
2j) Support regional planning efforts to encourage compact communities	X, Z	X, Z	X, Z	X, Z	X, Z

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3. Create a range of housing opportunities and choices	Martin	Stuart	St. Lucie	Port St. Lucie	Fort Pierce
3a) Enact an inclusionary zoning ordinance for new housing developments	X	X, Y		X	X
3b) Provide home buyers assistance through support to community land trusts					
3c) Revise zoning and building codes to permit a wider variety of housing types	X, Z	X, Y, Z		X	X, Z
3d) Plan & zone for affordable and manufactured housing in rural areas	X, Z	N/A	X, Z	X, Z	N/A
3e) Educate developers of multi-family housing units and nonprofits on the use of limited-equity (or equity-restriction) components					
3f) Educate realtors, lenders, and homebuyers on the use of resource-efficient mortgages					
3g) Implement a program to identify and dispose of vacant and abandoned buildings	X	X, Y			X
3h) Adopt special rehabilitation building codes to regulate the renovation of existing structures	X	Y		X	X
3i) Enlist local jurisdictions in implementing a regional fair-share housing allocation plan across metropolitan areas					X
3j) Give priority to smart growth projects and programs that foster smart growth in the allocation of federal housing and community development block grant (and other) funds	X, Z	Y, Z	X		X

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4. Create walkable neighborhoods	Martin	Stuart	St. Lucie	Port St. Lucie	Fort Pierce
4a) Provide grants or other financial assistance to local communities to retrofit existing streets and sidewalks to promote more walkable communities	X, Z	X, Y, Z		X	X
4b) Concentrate critical services near homes, jobs, and transit	X, Z	X, Y, Z	X, Z	X, Z	X, Z
4c) Require building design that makes commercial areas more walkable	X, Z	X, Y, Z	X	X	X
4d) Adopt design standards for streets that endorse safety and mobility for pedestrian and nonmotorized modes of transport	X, Z	X, Y, Z	Z		
4e) Adopt design standards for sidewalks	Z	X, Z	Z		
4f) Require traffic calming techniques where traffic speed through residential and urban neighborhoods is excessive	X, Z	X, Y Z			
4g) Beautify and maintain existing and future walkways	X	X, Y Z			
4h) Provide people with disabilities easy access to sidewalks, streets, parks and other public and private services	X, Z	X, Y Z			
4i) Connect walkways, parking lots, greenways and developments	X, Z	X, Y Z	Z	Z	
4j) Identify economic opportunities that stimulate pedestrian activity	Z	X, Y Z		X	X

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5. Foster distinctive, attractive communities with a strong sense of place	Martin	Stuart	St. Lucie	Port St. Lucie	Fort Pierce
5a) Modify *[state]* funding processes and school siting standards to preserve neighborhood schools and build new schools to a community level	X	X			
5b) Create a state tax credit to encourage adaptive reuse of historic or architecturally significant buildings	N/A	N/A	N/A	N/A	N/A
5c) Plant trees throughout communities and preserve existing trees during new construction	Z	Y, Z	Z	Z	Z
5d) Create active and secure open spaces	X, Z	Y, Z	X, Z	X, Z	Z
5e) Simplify and expedite permitting regulations to allow vendors to offer sidewalk service		Y, Z	Z		
5f) Create special improvement districts for focused investments	X, Z	X, Y, Z	X, Z	X, Z	X, Z
5g) Define communities and neighborhoods with visual cues		Z, Y		X, Z	
5h) Preserve scenic vistas through the appropriate location of telecommunications towers and through improved control of billboards	Z	Z	Z	Z	Z
5i) Create opportunities for community interaction	X, Z	X, Y, Z			X, Z
5j) Enact clear design guidelines so that streets, buildings, and public spaces work together to crate a sense of place	X, Z	X, Y, Z		X, Z	X

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6. Preserve open space, farmland, natural beauty, and critical environmental areas	Martin	Stuart	St. Lucie	Port St. Lucie	Fort Pierce
6a) Use transfer of development rights, purchase of development rights, and other market mechanisms to conserve private lands	X, Z	X, Z	X	X	
6b) Coordinate and link local, state, and federal planning on land conservation and development	X, Z	X, Y	X, Z	X, Z	X
6c) Expand use of innovative financing tools to facilitate open-space acquisition and preservation	Z	X, Y	X	X	
6d) Employ regional development strategies that better protect and preserve open space in edge areas		X*	X		
6e) Adopt a green infrastructure plan		X*			
6f) Create a network of trails and greenways		*			
6g) Design and implement an information-gathering and education program		*			
6h) Design and implement zoning tools that preserve open space	X, Z	X, Y, Z	X, Z	X, Z	X, Z
6i) Provide mechanisms for preserving working lands	X	N/A	Z	N/A	N/A
6j) Partner with nongovernmental organizations to acquire and protect land		X, Y		X	

**Stuart's stormwater utility & watershed protection improvement * blueway-greenway program address noted items.*

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7. Strengthen and direct development towards existing communities	Martin	Stuart	St. Lucie	Port St. Lucie	Fort Pierce
7a) Strengthen state of local brownfields programs		X*			
7b) Adopt a fix-it-first policy that sets priorities for upgrading existing facilities	X	X			
7c) Institute regional tax-base sharing to limit regional competition and to support schools and infrastructure throughout the region					
7d) Use the split-rate property tax to encourage development on vacant or lighted pieces of land in existing communities		Y			
7e) Locate civic buildings in existing communities rather than in greenfield areas	X	Y, Z	X	X	X, Z
7f) Conduct an infill checkup to prioritize infill/brownfield redevelopment		Y			
7g) Facilitate programs encouraging home renovation/ rehab in existing neighborhoods	X	X, Z	X	X	X, Z
7h) Support community-based organizations in revitalizing neighborhoods	X, Z	X, Z		X	X
7i) Create economic incentives for business and home owners to locate in areas with existing infrastructure		Y, Z			X
7j) Modify average cost-pricing practices in utilities to better account for costs of expanding infrastructure in greenfield areas		**			

**Stuart's stormwater utility & watershed protection improvement address noted items. ** Stuart's utility pricing is part of the city utility plan adopted by resolution*

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8. Provide a variety of transportation choices	Martin	Stuart	St. Lucie	Port St. Lucie	Fort Pierce
8a) Finance and provide incentives for multimodal transportation systems that include supportive land use and development	X, Z	X, Y, Z	X	X, Z	X
8b) Modify roadway level-of-service standards in areas served by transit *(since transit has not yet been implemented, this item is checked if a multimodal LOS, a very low LOS, or a transit/TDM alternative is allowed for dense areas)*	X	X, Z		Z	X
8c) Plan and permit road networks of neighborhood-scaled streets (generally two or four lanes) with high levels of connectivity and short blocks	X, Z	X, Y, Z		X	
8d) Connect transportation modes to one another	Z	X, Y, Z			X
8e) Zone for concentrated activity centers around *[planned]* transit service	X, Z	X, Y, Z	X, Z	X, Z	X
8f) Require sidewalks in all new developments	X, Z	X, Z	Z	X	Z
8g) Address parking needs and opportunities	X, Z	X, Y, Z	X, Z	X, Z	Z
8h) Collaborate with employers and provide information and incentives for programs to minimize or decrease rush-hour congestion impacts		X, Y			
8i) Adjust existing transit services to take full advantage of transit-supportive neighborhoods and developments (all are checked given support of Phase I study, but additional work is needed in each jurisdiction to make transit viable)	X	X, Y	X	X	X
8j) Cluster freight facilities near ports, airports, and rail terminals	X	N/A	X		

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9. Make development decisions predictable, fair and cost effective	Martin	Stuart	St. Lucie	Port St. Lucie	Fort Pierce
9a) Provide financial incentives to aid the development of smart growth projects	X	X, Y, Z	X	X	X,
9b) Conduct smart growth audits [to make zoning & regulations match Comp Plan]	X, Z	X, Y, Z	X, Z	X, Z	X, Z
9c) Implement a process to expedite the approval of plans and permits for smart growth projects	X, Z	X, Y, Z		X	X
9d) Engage political support for improved coordination on approval of smart growth projects		Y, Z			
9e) Use a point-based evaluation system to encourage smart growth projects	X				
9f) Remove parking from the development equation through public-private partnership to build community parking facilities		Y, Z			
9g) Encourage demand for smart growth through consumer incentives					
9h) Display zoning regulations and design goals in pictorial fashion to better illustrate development goals	Z	X, Y, Z		X, Z	
9i) Maximize the value of transit agency property through joint development of transit-oriented areas		Z			
9j) Incorporate by-right smart growth redevelopment into existing communities' master plans	X	X, Y, Z	X, Z	X	X

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10. Encourage community and stakeholder collaboration in development decisions: *More information about the planning process within each jurisdiction is needed to address this item. All localities have been participating at least to some degree in the TCRPC charrette processes and the regional land use study, which are good examples of the type of collaboration called for in this policy.*	Martin	Stuart	St. Lucie	Port St. Lucie	Fort Pierce
10a) Seek technical assistance to develop a public participation process	*	Z	*	*	*
10b) Use unconventional methods and forums to educate nontraditional and traditional stakeholders about the development and decision-making processes.	*	Z	*	*	*
10c) Conduct community visioning exercises to determine how and where the neighborhood will grow.	X	X, Z	X	X	X
10d) Create public access to tax and lien information on all properties to facilitate the rehabilitation of distressed properties					
10e) Incorporate opinions & interests often & routinely into the planning process	*	*	*	*	*
10f) Work with the media to disseminate planning and development information on a consistent basis	*	*	*	*	*
10g) Engage children through education and outreach	*	*	*	*	*
10h) Cultivate relationship with schools, universities and colleges	*	X	*	*	*
10i) Bring developers and the development community into the visioning process	*	Y, Z	*	*	*
10j) Hold a design charrette to resolve problematic development decisions	X	X, Y, Z	X	X	X

** Since process is not described in most plans and regulations, this is only cited where known from other sources.*

Table 3: Detailed Review of Plan & Ordinance Relationships with Ten Smart Growth Principles

Principle 1: Mix land uses	
Martin County	*Existing Plan:* Future Land Use and related elements add or amend references to mixed uses and traditional neighborhood development. Allows mixed uses in virtually all residential, commercial and industrial categories. Caveats are noted that different uses, such as industrial and residential, should be appropriately buffered through design and landscaping, but ensures that there will be pedestrian, bicycle, and vehicular access among residential and commercial areas. Defines components of TND to include proximity of uses, pedestrian scale, grid streets, public squares and civic spaces, clear edges, and a range of housing types and prices. Encourages introduction of mixed uses, over time, into single-use areas. *Existing Regulations:* Planned Unit Developments can be created on a case-by-case basis in most areas, requiring a master plan and negotiation with the Board of County Commissioners. Community Redevelopment Areas are established for Jenson Beach and Port Salerno. The R-3A "Liberal Multiple Family District" allows for residential mixed use. The COR commercial designations allow for neighborhood services to residential areas. Public services, such as libraries and parks, are allowed in nearly all residential areas, and schools are allowed in some residential areas. *Potential Enhancements:* Consider zoning by building type rather than use to allow uses to change over time while preserving design & scale; assemble state and private funds to finance mixed use areas.
Stuart	*Existing Plan:* Focuses on mixing of uses and TND throughout all elements of comprehensive plan. Includes specific definitions for terms, including "mixed use", and includes descriptions of desired buffers and pedestrian/vehicle connections. Includes other features and elements similar to Martin County plan. *Existing Regulations*: Specific regulations, design guidelines, and incentives are established for the overlay zones of East Stuart, SE Ocean Boulevard, and the Urban Center area that includes the CRA. Nearly all residential areas allow for neighborhood commercial and community center, including schools in R3 areas, and parks are allowed in all residential and nonresidential areas. The zoning regulations appear to be well up to date with the land use plan, and Stuart has several programs to finance mixed use projects in the CRA. *Potential Enhancements*: Consider zoning by building type rather than use to allow uses to change over time while preserving design & scale.
St. Lucie County	*Existing Plan*: Future Land Use and Transportation Elements include new categories and goals to develop tools that support mixed uses particularly within Urban Service area. Caveats are noted that incompatible uses, such as industrial and residential, should be appropriately buffered and separated. Eliminating future strip development by placing smaller commercial centers near residential areas and limiting depth of existing strip areas to 600 feet also is included. *Existing Regulations:* The Commercial Neighborhood zone allows for neighborhood type services adjacent to residential areas. The Planned Unit Development category allows for up to three percent neighborhood commercial area; Planned Non Residential Development allows for commercial and employment areas within residential areas; the Planned Mixed Use Development category, applicable only in areas designated as MXD in the land use plan, allows for a wide variety of residential and non residential uses. In addition, the River Park Overlay Zone allows for some commercial development at intersections serving the River Park subdivision on Prima Vista Boulevard. *Potential Enhancements:* Using comprehensive graphics, expand on goals for commercial centers, ensuring that appropriate connections among uses are clearly required and there are no internal conflicts within the plan. See also recommendations for Martin County.

Table 3: Detailed Review of Plan & Ordinance Relationships with Ten Smart Growth Principles (Cont.)

Principle 1: Mix land uses (Cont.)	
Port St. Lucie	*Existing Plan*: Future Land Use, Housing, Transportation and Economic Development Elements include goals for mixed use development and redevelopment in targeted areas (Darwin Square area at Gatlin/ Port St. Lucie Blvd; City Hall area at Arioso & Port St. Lucie Blvd; Town Center area at Lennard/ Port St. Lucie Blvd, and possible new interchange [River Trace] at Becker/Fl. Turnpike). Defines components of pedestrian-oriented mixed use features, similar to those in the Martin County plan, and includes architectural design concepts. The land use plan focuses attention on the need to assemble and/or convert uses of the vacant platted residential land to direct growth. *Existing Regulations:* Zoning Districts for Limited Mixed Use (assembling and converting single-family residential land) and Planned Unit Development (creating new communities) allow for mixing land uses, with PUDs the most flexible. A Neighborhood Convenience Commercial district allows for small shopping areas serving residential neighborhoods, and some other commercial categories appear to allow for apartments. A Land Conversion Manual targets specific areas to convert to mixed use over time (*Figure 1*, PSL Land Use Conversion Areas). Potential *Enhancements*: See Martin County recommendations. Consider combining and simplifying residential zoning categories to easily allow services appropriate to the scale and density of residential areas, including neighborhood schools, and combining LMU and PUD into one flexible category, encouraging more high-density housing within commercial areas, and continuing to separate industrial and noisy commercial areas from single-family residential.
Fort Pierce	*Existing Plan:* Future Land Use, Housing, Transportation and Port Elements include goals for mixed use development and redevelopment, particularly in the port area. Components of pedestrian-oriented mixed use are described in the Port Element. Future Land Use Element notes need to allow for flexibility in zoning, so that uses can change in mixed use areas over time without need to change the plan. *Existing Regulations:* Churches and parks are allowed in all residential zones, schools are allowed in areas of 5+ dwelling units/acre, and neighborhood commercial services are allowed in areas of 10+ units/acre. The Office Commercial zone allows for upper floor apartments and multi-family housing, and the Neighborhood Commercial zone allows services to be located near residential areas. The PUD zone allows for areas of at least five acres that include 30% commercial (with at least 20 dwelling units) and 40% open space. PURD (Redevelopment) zones allow for creating mixed use areas within existing residential areas, with a requirement that open space be increased by at least ten percent. The Hutchinson Island district allows for mixed use development with density bonuses available. *Potential Enhancements*: See Martin County recommendations.

Table 3: Detailed Review of Plan & Ordinance Relationships with Ten Smart Growth Principles (Cont.)

Principle 2: Take advantage of compact building design	
Martin County	*Existing Plan:* Future Land Use Element includes requirements for open space in most development proposals, has specifics regarding height and scale for various community types, and requires design and screening to allow for privacy of established residential areas in which mixed uses are being introduced. Allows shared parking and includes goal to re-examine parking requirements. Includes goals for density bonuses. References 1996 charrette to identify desired design characteristics of mixed use communities. *Existing Regulations:* Open space is required for most zoning categories in ranges of 20 to 50 percent. Density is allowed up to 15 dwelling units per acre in residential areas and may be higher in the CRAs (density regulations are shown by lot size rather than acre). A Design Review Committee is in place for review and, in some cases, final approval of proposals. Visuals are used to illustrate some of the zoning regulations for CRAs (*Figure 2*, Jensen Beach CRA Development Standards for Maple Street). On street parking is allowed in all CRAs and PUDs, and shared parking is allowed in some cases. *Potential Enhancements:* Continue participation in community charrettes and education; make sure open space within developments is easily accessible; follow up with goal to reduce amount of surface parking; use visuals to illustrate design goals.
Stuart	*Existing Plan*: Plan has specific requirements for architecture, landscaping, reducing mass of parking areas, and density bonuses. Includes some visuals illustrating design requirements. *Existing Regulations:* Open space is required for up to 30 percent of developed areas, and parks are allowed in any type of zone. Densities in PUDs and grandfathered R-3's can be as high as 15 dwelling units/acre (30 for adult congregate living centers). Other residential areas are 4 to 10 units per acre, all of which support at least some level of transit, which typically requires a threshold of about 6 units per acre. Several regulations and funding programs are in place to encourage denser housing development in downtown and reduce off-street parking and/or put it to the rear of buildings. Developments with 200 or more parking spaces are required to put in space and/or amenities for transit stops. Ordinances include helpful illustrations of urban types (*Figure 3*, Urban Center) *Potential Enhancements*: Continue community involvement in design; see if parking standards can be further reduced and/or priced as an incentive for transit; appoint Design Review Board; continue developing illustrations in plan and ordinance.
St. Lucie County	*Existing Plan*: Open space requirements are extensive; includes goals for parking reduction and density bonuses. *Existing Regulations*: Residential zoning can be as high as 15 units per acre, and 25 to 35 percent of all residential areas must be usable open space. Density bonuses are not specifically referenced. Shared parking is allowed in commercial areas to reduce the total amount of spaces up to about 25 percent. The River Park overlay zone helps create a mixed use residential area adjacent to the Phase I study's proposed commercial center on St. Lucie Boulevard. *Potential Enhancements*: Develop more specifics on height, scale, and architectural standards. Develop more density bonus options. Other recommendations similar to Martin County and the City of Stuart.

Table 3: Detailed Review of Plan & Ordinance Relationships with Ten Smart Growth Principles (Cont.)

Principle 2: Take advantage of compact building design (Cont.)	
Port St. Lucie	*Existing Plan*: Includes open space requirements for residential and nonresidential areas, density bonuses, and a neighborhood planning program focused on enhancing neighborhoods through land use and design changes. *Existing Regulations*: Residential areas include requirements for accessible, usable open space and various levels of density. Buffers and yard sizes are specified throughout each category of residential and non-residential for privacy. Maximum building heights are specified throughout categories, not linked specifically to road types. However, there are limits on types of development by street categories, primarily in order to keep through traffic out of neighborhoods. Parking can be shared if the uses do not compete, but otherwise shared parking and reduced on-street parking are not encouraged. Density bonuses and a Design Review Board are not discussed. *Potential Enhancements*: Develop more community involvement and education, such as illustrations in documents that consider higher density design standards; review reducing off-street parking standards and allowing for more shared parking; create density bonuses; appoint Design Review Board.
Fort Pierce	*Existing Plan*: Land Use, Housing, and Port Elements include goals and programs to support density and design similar to those described in other plans. Current work on design will enhance the plan with more specific requirements and graphics. *Existing Regulations*: In addition to PUD and PURD areas, a category called Innovative Housing Developments allows density bonuses for areas similar to R-3 that feature clustering, "distinctiveness," and/or "excellence" in design. Buffers, yard sizes, and building heights are specified throughout. Off street parking can be shared if uses do not complete, but is otherwise not specifically encouraged or regulated. A Design Review Board is not in place, but there is a Historic and Archeological Site Preservation board with supporting staff. *Potential Enhancements*: See Port St. Lucie recommendations, with possible exception of Design Review Board, assuming the historic preservation board serves a similar purpose.

Table 3: Detailed Review of Plan & Ordinance Relationships with Ten Smart Growth Principles (Cont.)

Principle 3: Create a range of housing opportunities and choices	
Martin County	*Existing Plan:* Future Land Use and Housing Elements have goals to allow more density to developers who include low-income units in their proposals; includes allowance for manufactured housing & mobile home parks in rural areas; goals to infill vacant land and rehabilitate or, as last resort, destroy substandard/abandoned buildings. Allows for targeting CDBG and other funds to traditional neighborhood projects. References program to assist low-income home buyers. *Existing Regulations:* A variety of housing densities and types is permitted through the residential categories as well as CRAs and within some commercial areas. Developers of affordable housing can get deferrals and/or low interest loans for impact fees. *Potential Enhancements:* Enforce inclusionary zoning for affordable housing; encourage limited-equity multifamily housing (co-ops and community land trusts) and resource-efficient mortgages; consider participating in regional fair-share housing allocation plan.
Stuart	*Existing Plan:* Land use and housing policies support development of affordable housing through inclusionary zoning similar to Martin County. *Existing Regulations:* A mix of apartments and owner housing is encouraged in the targeted mixed use areas, and programs are in place to give priority to development in those areas. *Potential Enhancements:* Adopt proposed inclusionary zoning ordinance. Encourage limited-equity multifamily housing (co-ops and community land trusts) and resource-efficient mortgages; consider participating in regional fair-share housing allocation plan.
St. Lucie County	*Existing Plan:* Future Land Use Element does not address affordable housing specifically way; more information may be found in the Housing Element. *Existing Regulations:* Zoning allows for creation of mobile home parks and some mobile homes in rural areas. Residential categories provide for a wide range of densities, up to 15 units per acre in multifamily housing, and the mixed use categories allow for dense residential housing. *Potential Enhancements:* Provide advantages to projects with affordable housing; see Martin County recommendations.
Port St. Lucie	*Existing Plan:* Housing Element includes review of affordable housing situation, identification of locations that could be developed at lower costs, allows mobile home parks; refers to an Affordable Housing Incentive Plan; includes goals for updating regulations to require lower cost housing in new development; goals to fix blighted areas; targeting of CDBG and other funds for affordable and multi-family housing. References program to assist low-income home buyers. *Existing Regulations:* Zoning allows for several varieties of housing density, separated by residential type, allows for townhouses and mobile home parks, and allows for apartments in some commercial areas. *Potential Enhancements:* See Stuart recommendations for plan. Consider increasing options for higher density housing in commercial areas. Consider adopting inclusionary zoning ordinance.
Fort Pierce	*Existing Plan:* Housing and Future Land Use Elements include several specific policies and goals for development and redevelopment, similar to Martin County, and include references to programs for financing such as SHIP, Dollar Lot, and Valesco Village. Commits to considering graduated impact fees, using redevelopment impact fee credits for construction of single family homes, and fast track approval to projects with affordable housing. Contains guidelines for zero-lot line and clustering redevelopment areas. *Existing Regulations:* Zoning allows for several varieties of housing density, allows for townhouses and mobile homes located within residential areas and in separate parks, and allows for apartments and townhouses in some commercial areas.

	Potential Enhancements: See Stuart recommendations.

Table 3: Detailed Review of Plan & Ordinance Relationships with Ten Smart Growth Principles (Cont.)

Principle 4: Create walkable communities	
Martin County	*Existing Plan:* Traditional neighborhood standards include several references to proximity of uses and walkability, noting needs of elderly and people with disabilities. Allows spending of CDBG and capital improvement program funds on sidewalks, favors development proposals that include pedestrian and bicycle circulation and amenities encourages more spending by FDOT on sidewalks and bicycle paths as part of road projects. Requires pedestrian, bicycle and vehicle connections between adjacent/ mixed use residential and commercial areas. Includes economic goals to develop pedestrian-friendly tourist areas. *Existing Regulations:* Section 4.19.4 on Mobility *(Figure 4*, Martin Mobility Standards) establishes a clear balance for avoiding cut-through traffic on neighborhood streets, while providing good vehicle and pedestrian/bike access for local residents. It could provide a useful model for localities, such as St. Lucie and Fort Pierce, that prohibit direct connections between local streets and areas outside the residential system. The street design standards specify safety for all modes, preservation of community character, requirements for sidewalks on both sides of all new streets, and a traffic calming program that includes a process for neighborhood participation in identifying and testing alternatives. Section 4.19.7 specifies design of narrow, pedestrian-friendly streets in Traditional Neighborhood Design areas. Impact fees can be used to fund transportation improvements in specified benefit districts and bicycle/pedestrian facilities. *Potential Enhancements:* Work with MPO to create grants and set-asides for sidewalks and paths.
Stuart	*Existing Plan:* Similar to Martin County, with more specific tools, such as urban code overlay zone, to promote infill development and redevelopment of walkable communities. Includes references to traffic calming program, particularly for established residential neighborhoods. Includes development of specific areas, such as Riverwalk. *Existing Regulations*: The overlay zones address nearly all of the policies in this category, from building and street design and access for pedestrians to traffic calming in residential areas. Design elements for sidewalks and walkways are included, such as shade trees and making signage and building fronts "perceptible" to pedestrians (*Figure 5,* Graphics on building massing) Parking lots are required to be located in the back of buildings and to include landscaped islands and medians, which helps pedestrians. Alleyways for pedestrians are encouraged. *Potential Enhancements:* Work with Martin County & MPO to create grants and set-asides for sidewalks and paths; adopt detailed street design and sidewalk standards.
St. Lucie County	*Existing Plan:* Mixed use category in Future Land Use Element and bicycle/pedestrian and transit goals in Transportation Element support development of walkable communities and traffic calming, particularly within Urban Service area. *Existing Regulations:* The mixed use zones allow for separate pedestrian circulation systems, and the Planned Mixed Use Development zone shows a street hierarchy that allows for a grid pattern with bike lanes and sidewalks. The PUD and PNRD zones require that local streets be cut off from outside streets to prohibit through traffic. While this reduces cut-through traffic, it may also limit the walkability of these communities by making sidewalks along roadways incomplete grids. *Potential Enhancements:* See Martin County recommendations for plan. For regulations, consider requiring complete pedestrian and bicycle systems that connect residential areas to commercial services and community activity centers.

Table 3: Detailed Review of Plan & Ordinance Relationships with Ten Smart Growth Principles (Cont.)

Principle 4: Create walkable communities (Cont.)	
Port St. Lucie	*Existing Plan:* Future Land Use Element includes several references and descriptors to walkability and pedestrian orientation of mixed use and existing commercial & residential areas. Transportation Element includes several bicycle and pedestrian projects. *Existing Regualtions:* LMU and PUD zoning districts support the concentration of critical services near home, jobs, and transit, and include language about pedestrian accessibility. Neighborhood commercial zone encourages a high level of pedestrian connection between residential and local commercial areas. Sidewalks are not specifically required in any zoning category; the PUD includes requirements for pedestrian circulation. Traffic calming in neighborhoods is not discussed, but regulations to separate land uses by street type are included to keep through traffic out of neighborhoods. This could limit development of a true grid in more urban areas and force traffic to use arterials for short, neighborhood-distance trips. *Potential Enhancements:* Ensure clear linkage between Transportation Element and Future Land Use Element priorities for creating mixed use centers. See also Martin County plan recommendations. Consider requiring pedestrian access within residential zoning categories, as well as the LMU and commercial categories, perhaps similar to the PUD requirement. Update commercial area design standards to address pedestrian needs, such as requiring signage visible to pedestrians and pedestrian access through parking lots. Consider methods to support low-speed grids in higher density neighborhoods that allow traffic to spread out more evenly and give residents more trip choices.
Fort Pierce	*Existing Plan:* The Port Element includes several improvements to make the walking environment more attractive and viable; the Future Land Use and Transportation Elements include related goals, such as increasing mode choices beyond the automobile and creating nodal and neighborhood development patterns. The Elements do not specifically focus on walkability for all communities or similar goals. *Existing Regulations:* PUD and PURD districts support the concentration of critical services near home, jobs, and transit, but do not include language about pedestrian accessibility. Sidewalks are required for any land development costing $15,000 or more. Traffic calming in neighborhoods is not discussed, but regulations require that local streets inside PUDs and PURDs be separated from streets outside the development to keep through traffic out of neighborhoods. This could limit development of a true grid in more urban areas and force traffic to use arterials for short, neighborhood-distance trips. *Potential Enhancements:* See Port. St. Lucie recommendations.

Table 2: Detailed Review of Plan & Ordinance Relationships with Ten Smart Growth Principles (Cont.)

Principle 5: Foster distinctive, attractive communities with a strong sense of place	
Martin County	*Existing Plan*: Includes goals to co-locate public facilities and schools to create community focal points; includes plans for parks and open space within communities; includes plan to designate Community Redevelopment Areas and existing Primary and Secondary Urban Districts; supports attractive design, signage, and architectural standards; streamlines process to encourage reuse of historical buildings. Recently adopted standards for siting schools and public facilities support specific goals to make them strong, walkable community centers. *Existing Regulations:* Open space and tree preservation requirements are listed. CRAs are established for targeted investments. Libraries, schools, parks, and public facilities are permitted in most, if not all, residential areas. Cell towers are regulated for design and location. The Jensen Beach CRA specifies that development must be pedestrian-friendly, consistent with design guidelines, and preserve native vegetation. *Potential Enhancements:* Explore tax credits for adaptive reuse of historic buildings; create specific tree planting and preservation plans for targeted growth areas; create specific design guidelines for visual cues to define communities, including signage and building massing guidelines for a pedestrian scale, similar to Stuart's.
Stuart	*Existing Plan:* Clearly identifies neighborhoods and communities within the city with targeted plans for infill, redevelopment, and other investments as appropriate to the needs of the community. Includes design, signage and architectural standards. Also includes several references to marketing the city as a hub, commercial center, and family-oriented community. *Existing Regulations:* The mixed use zoning categories and overlay district regulations clearly state the purpose of creating a distinct sense of place. Tree preservation and planting is included in the landscaping ordinance, and 25 percent to 30 percent of mixed use or commercial areas must be usable open space. Provisions for sidewalk vendors are noted, and visual cues, such as "Confusion Corner", are addressed in the CRA master plan. Cell towers are strictly regulated to avoid intrusion on communities. Design guidelines include illustrations. The CRA plan includes tax credits for adaptive reuse of historic buildings. *Potential Enhancements*: Continue enhancing design guidelines for visual cues to define communities.
St. Lucie County	*Existing Plan:* Focus of goals are primarily on Urban Service District; plan references Fort Pierce master plan and references information about City of Port St. Lucie. *Existing Regulations:* Residential and commercial regulations provide for tree preservation and landscaping; residential areas also require usable open space. The regulations provide a process for mobile (sidewalk) food vendors, and restrict the locations and appearance of cell towers and billboards. The River Park overlay zone and the MXD areas in the Comprehensive Plan identify specific community locations for fostering a sense of place. *Potential Enhancements:* See Martin County recommendations, but note the issue of cell towers and billboards may already be addressed fully in St. Lucie. Also consider development of illustrative design guidelines and policies for siting and locating public facilities and schools to serve as community centers.

Table 3: Detailed Review of Plan & Ordinance Relationships with Ten Smart Growth Principles (Cont.)

Principle 5: Foster distinctive, attractive communities with a strong sense of place (Cont.)	
Port St. Lucie	*Existing Plan:* The Future Land Use and the Economic Elements include a variety of policies that address both specific goals for targeted areas and city-wide strategies for zoning and incentives, such as the ad valorem economic development tax exemption, the Foreign Trade Zone designation of St. Lucie West Park of Commerce, partnerships with Enterprise Florida, and sources of seed capital for economic development. *Existing Regulations:* The PUD category supports creation of new communities. The LMD category helps support redesign of existing residential areas into more diverse communities. Tree planting, landscaping, and open space requirements are included for all residential and commercial areas. Telecommunications towers are regulated. Massing, height, and design of buildings and walls are regulated to achieve a harmonious overall effect. *Potential Enhancements:* See St. Lucie recommendations. Continue to build upon design standards to make all types of communities appear and function as distinct places with clear centers and edges, linked by pedestrian paths and transit-friendly streets. Consider encouraging location of community centers, such as neighborhood schools within residential areas, and using landscaping and signage as visual cues to community boundaries.
Fort Pierce	*Existing Plan*: The Future Land Use Element includes several policies and strategies to support mixed use compact development and includes Future Land Use Maps for 13 subareas. The most detailed policies for implementation are in the Port Element. Schools and public facilities are noted as potential community centers in most major land use types. *Existing Regulations:* The section on Historic and Archeological Preservation provides the most descriptive information that supplements the plan's discussion of creating distinctive communities with a sense of place. Cell towers are regulated, and landscaping and tree preservation are required. Churches and parks are allowed in all residential categories, and schools are allowed in areas of 6 or more dwelling units per acre. *Potential Enhancements*: See Martin County recommendations.

Table 3: Detailed Review of Plan & Ordinance Relationships with Ten Smart Growth Principles (Cont.)

Principle 6: Preserve open space, farmland, natural beauty & critical environmental areas	
Martin County	*Existing Plan:* Strong emphasis on preservation of coastal areas and wetlands, requirements for open space in most development categories; goals for TDR program; discusses links to state and federal preservation programs; supports preservation of working agricultural areas and affordable farm worker housing. *Existing Regulations:* Wetlands are strongly protected, and a TDR program is in place to trade development in wetlands for upland locations. Agricultural zones provide for working farms of varying sizes and types. Impact fees can be used to purchase open space for preservation. *Potential Enhancements:* Continue to develop TDR programs; explore public-private resources for acquisition of sensitive lands; create a greenways plan.
Stuart	*Existing Plan:* Similar to Martin County, with the exception of references to agricultural areas, which are not relevant to urban areas. *Existing Regulations:* Environmentally sensitive areas are protected in the ordinances, and greenways are required to connect some wetlands. *Potential Enhancements:* Work with Martin County to support implementation of County recommendations.
St. Lucie County	*Existing Plan:* Strong emphasis on open space and natural area preservation for coastal management and wetlands. Requires open space in most development categories. *Existing Regulations:* Zoning regulations clearly support the land use goals, with categories for working agricultural areas and coastal land and wildlife preservation. *Potential Enhancements*: See Martin County recommendations.
Port St. Lucie	*Existing Plan:* Similar to St. Lucie. *Existing Regulations:* Open space is protected through discrete zoning districts and requirements for usable public space within residential and commercial districts. *Potential Enhancements*: See Martin County recommendations.
Fort Pierce	*Existing Plan:* The Coastal and Conservation Elements include a wide range of requirements similar to those in other localities. *Existing Regulations*: In addition to protection of environmentally sensitive areas, such as wetlands and the Hutchinson Island district, there is a detailed focus on historic preservation, including eligibility for funding programs and tax exemptions. *Potential Enhancements*: See Martin County recommendations.

Table 3: Detailed Review of Plan & Ordinance Relationships with Ten Smart Growth Principles (Cont.)

Principle 7: Strengthen and direct development towards existing communities	
Martin County	*Existing Plan:* Establishes Community Reinvestment Areas and Primary & Secondary Urban Service Districts; goal to co-locate public facilities within existing areas; supports stability of established home-owner neighborhoods; targets CDBG and other funding toward CRAs. *Existing Regulations:* The CRAs and zoning categories support development the Future Land Use Element's goals for existing centers. More proactive programs and funding can be considered. *Potential Enhancements:* Explore regional tax-base sharing; consider split-rate property tax on vacant/blighted land; expand funding sources and programs to encourage home renovation, rehabilitation and business location in CRAs; consider new pricing practices for utilities to favor building in CRAs, rather than rural areas.
Stuart	*Existing Plan:* Includes specific goals for each community within the city, such as targets for commercial and job growth within the urban redevelopment area and master plan for East Stuart revitalization. The CRA master plan notes that its first phase of commercial revitalization, begun in the late 1980's, has gone well. Now the focus is on developing more residential properties downtown and improving blighted neighborhoods on the fringes. The CRA may also be expanded to include the East Stuart Street area. *Existing Regulations*: Many regulations and financing programs are in place to support redevelopment of the CRA, including residential promotion, façade improvements, neighborhood and historic area preservation, arts programs, and the Main Street program. *Potential Enhancements:* Explore regional tax-base sharing; consider split-rate property tax on vacant/blighted land; consider new pricing practices for utilities to favor building in CRAs, rather than rural areas.
St. Lucie County	*Existing Plan*: Targets Urban Service District and protects existing neighborhoods; policies generally steer almost all types of development away from areas outside the urban service district, except for some small commercial areas to serve existing residential areas. *Existing Regulations:* Zoning supports the land use plan, as noted above; the River Park and Hutchinson Island categories emphasize defining and investing in existing developed areas. *Potential Plan and Regulation Enhancements:* See Martin County recommendations.
Port St. Lucie	*Existing Plan:* Establishes targeted areas for mixed use and/or commercial investment and sets strategies for assembling or converting vacant platted residential areas to contain sprawl. Housing Element includes several goals and programs for investing in low-income or blighted areas. *Existing Regulations:* LMU and Neighborhood Convenience categories support the creation of communities in existing dispersed residential areas. *Potential Enhancements:* See Martin County recommendations.
Fort Pierce	*Existing Plan:* The Housing and Future Land Use Elements include several policies and incentive programs to strengthen existing communities and reverse blight. The Port Element is a strong focal point for investment. *Existing Regulations:* The regulations generally support the plan, but do not specify particular programs or designated areas for investments, other than the Hutchinson Island district, for which some density bonuses are available. *Potential Enhancements:* See Martin County recommendations.

Table 3: Detailed Review of Plan & Ordinance Relationships with Ten Smart Growth Principles (Con't)

Principle 8: Provide a variety of transportation choices	
Martin County	*Existing Plan:* Supports pedestrian and bikeway system development in Future Land Use and Transportation Elements; allows for LOS E in Transportation Exception Area along US 1; supports a grid network of streets; allows shared parking and includes goal to update parking requirements; includes funding for paratransit program; supports transit pending implementation at regional level; and clusters industrial uses near rail, air, ports, and major highways. *Existing Regulations:* The roadway design section includes a clear standard for multimodal access and safety that preserves community character. See more comments about this under Principle 4 (Walkable Communities). On-street parking is allowed in CRA's and Traditional Neighborhood Developments. In Port Salerno, developers may pay a fee in lieu of required parking, which is put into a fund for community-wide parking similar to the more detailed Payment in Lieu of Parking program in Stuart. *Potential Enhancements*: Develop more funding for paratransit and fixed route transit; allow further modification of LOS based on transit and pedestrian/bike modes; help develop regional rideshare and employer traffic reduction program, which would be more effective than a single-locality program.
Stuart	*Existing Plan:* Active plans for pedestrian, bikeway, transit, and access management; goal to study options for routing traffic away from US 1; includes a fix-it-first policy to improve intersections and signals before widening roadways; goal for a joint study with two-county area of effects of urban sprawl on public transit usage and feasibility (completed with the Phase I effort); goal to look at reducing impact fees for mixed use developments that promote internal trip capture; policy to require large commercial developments with more than 200 parking spaces to provide for a transit stop; support of future passenger rail possibilities; allows lower LOS in Transportation Concurrency Exception Area. *Existing Regulations:* Regulations strongly support and encourage pedestrian and bicycle facility development. Proposed new developments with 200 or more parking spaces must finance land and/or amenities for a transit stop. The City has a new Payment in Lieu of Parking Program that allows developers to build up to 50 percent less parking by paying $4,500 for each space not built. This will help the City build some 700 planned parking spaces in desired locations within the urban area. Roadway LOS is set at E throughout the city and lower for transportation concurrency exemption areas; developers are required to show how their project can lessen traffic impacts through transit and TDM measures. *Potential Enhancements:* Develop more funding for paratransit and fixed route transit; help develop regional rideshare and employer traffic reduction program.
St. Lucie County	*Existing Plan:* Supports pedestrian and bikeway system development, particularly for Urban Service Area; supports grid streets; allows shared parking and includes goal to update parking requirements; includes funding for paratransit program; includes support for fixed route transit program, pending its implementation at regional level. *Existing Regulations:* The Planned Mixed Use District sets guidelines for a hierarchy of streets in a grid pattern that require sidewalks and bike lanes. The Planned Unit Development and Planned Nonresidential Development zones include restrictions on accessibility to local streets from outside the planned area, which cuts down on through traffic, However, these restrictions also make the planned area harder to serve with transit and may make pedestrian circulation more difficult. The County does not have a multimodal Level of Service standard for concurrency, but does allow developers to show transit, travel demand management or transportation systems management strategies that meet concurrency requirements. Parking can be shared to a limited extent. *Potential Enhancements:* See Martin County recommendations.

Table 3: Detailed Review of Plan & Ordinance Relationships with Ten Smart Growth Principles (Cont.)

Principle 8: Provide a variety of transportation choices (Cont.)	
Port St. Lucie	*Existing Plan:* Transportation Element focuses on redeveloping current automobile-oriented street system around low-density existing or platted cul-de-sacs into a more gridded network of connected local streets. Plans are shown for new streets, a basic system of bicycle and pedestrian paths, and future development of a bike and pedestrian plan. The plan briefly references the proposed mass transit planned for the larger region. *Existing Regulations:* Land uses are separated by street type to discourage through traffic in neighborhoods. See discussion and recommendations from *Principle #4,* Create Walkable Communities. Shared parking and reduced on-street parking are not encouraged; see discussion and recommendation from Principle *#2*, Compact Building Design. *Potential Enhancements:* See Martin County recommendations.
Fort Pierce	*Existing Plan:* Transportation Element identifies Special Transportation Area for downtown area (US 1 from city northern limit to Virginia Ave) for integrated land use/transportation management measures and lower LOS standards. Includes impact fees and other measures to fund facilities and preserve rights of way. Includes goals for bicycle, sidewalk, and transit development the latter depending on the success of the regional fixed route program. Policy gives funding priority to multi-modal facilities. *Existing Regulations:* The regulations generally support the plan, but do not specify additional programs or designated investments in pedestrian and bicycle facilities, other than the requirement that new land development of $15,000 or more include sidewalks. See note in *Principle #2, Compact Building Design* on the possible limitations of the requirement that local streets inside PUDs be separated from areas outside the community. *Potential Enhancements:* Develop city-wide bicycle, pedestrian and greenways master plan. Include more language and graphics to support walkability in desired areas, particularly PUD and PURD zones. Also see Martin County recommendations.

Table 3: Detailed Review of Plan & Ordinance Relationships with Ten Smart Growth Principles (Cont.)

Principle 9: Make development decisions predictable, fair and cost effective	
Martin County	*Existing Plan:* Supports density bonuses and LOS exceptions for compact development; regulations have been or are being brought into compliance with plan. Includes a point-based system for siting and walkable design of schools and public facilities. Includes concurrency management system based on applicable Florida law. *Existing Regulations*: Renderings for Jensen Beach and Port Salerno CRA's are included (Figure 2). Expedited approval for PUDs and affordable housing projects is shown. Port Salerno includes a process to fund community parking through developer fees in exchange for reduced parking requirements. The development review process is laid out clearly in Article 10, with notes about which entities make recommendations or approvals. *Potential Enhancements:* Develop point-based system for private projects; create more financing for parking and transit structures; examine consumer incentives; continue to develop the use of graphics in plan and codes.
Stuart	*Existing Plan:* Similar to Martin County. Includes administrative relief process for land holders in transition to smart growth plan and includes more graphics in plan and code. *Existing Regulations:* Financial incentives and assistance are provided for developers to locate in targeted areas. The Payment in Lieu of Parking program can help build necessary parking in desired locations, while avoiding creation of too much parking elsewhere. The requirement to put in transit amenities for large developments helps maximize transit agency investments. Design illustrations provide guidance to developers and administrators. *Potential Enhancements:* Develop point-based system for private projects; create more public-private financing for transit; examine consumer incentives; continue to enhance the use of graphics in plan and codes.
St. Lucie County	*Existing Plan:* Includes goals for density bonuses and zoning tools; provides compatibility chart for land use & zoning. Includes concurrency management system. *Existing Regulations:* The mixed use districts help expedite the development of compact, walkable places in most residential and commercial areas, as well as the targeted areas in the overlay zones. The regulations also include a section on vested rights and plat abandonment. Some drawings are included in the regulations, and there are helpful tables that summarize the density, floor area ratio, and infrastructure requirements for all zoning categories. *Potential Enhancements:* See Martin County recommendations.
Port St. Lucie	*Existing Plan:* Similar to St. Lucie County. *Existing Regulations:* The LMU, PUD, and Neighborhood Convenience categories support smart growth goals in the plan. LMU and PUD require conversion from existing categories, which can be a difficult process. Community parking facilities are not discussed. *Potential Enhancements:* See Martin County recommendations. The issue of converting the existing platted land to mixed uses or open space over time will be particularly challenging, but necessary in order to focus growth in centers. Consider strategies, such as appointing a Design Review Board help clarify and expedite the process.
Fort Pierce	*Existing Plan:* Similar to St. Lucie County, with more specific initiatives, such as graduated impact fees for projects with affordable housing. *Existing Regulations*: The regulations do not expand particularly upon the plan, other than the section on the process for historic and archeological preservation. *Potential Enhancements:* See Martin County recommendations.

Table 3: Detailed Review of Plan & Ordinance Relationships with Ten Smart Growth Principles (Cont.)

Principle 10: Encourage community and stakeholder collaboration in development decisions	
Martin County Stuart St. Lucie County Port St. Lucie Fort Pierce	*Existing Plan:* More information about the planning process within each jurisdiction is needed to address this item. All localities have been participating at least to some degree in the TCRPC urban design workshops and the regional land use study, which are good examples of the type of collaboration called for in this policy. A review of local Web sites notes wide disparities in planning and zoning information available for public review. The City of Stuart has some of the most extensive Web sites including a summary of its comprehensive plan, a copy of its entire code, and interactive mapping program to view land use and parcel information. The recently completed CRA Master Plan in Stuart provides a good example of community outreach and involvement in design. Port St Lucie's Web site has similar features, as does Martin County's. Martin County has a Design Review Committee in place, as well as neighborhood review of proposals for Jensen Beach CRA and a neighborhood workshop process for traffic calming projects. *Potential Enhancements:* Public involvement processes can be developed and included as an element in each plan. Web sites can be upgraded to include consistent and complete information about the comprehensive plan, land code, and maps for each locality.

Table 4: Plans & Ordinances Related to Phase I Study Recommendations

Develop Mixed Use Activity Centers (Map 1)	
Martin County	The plan includes land use categories specifically for mixed uses and allows the introduction of compatible uses in single-use areas, such as home-based businesses and small commercial enterprises in residential areas. The plan designates Primary and Secondary Urban Service Districts whose pedestrian-oriented mixed uses are encouraged. The county has 12 planning areas. The Phase I study recommendations would involve the planning areas of North River Shores, North County, Hutchinson Island, Stuart Urban, Palm City, and Port Salerno 76 Corridor. The Economic Element includes an inventory of commercial and industrial land. The Recreation and Conservation Elements include requirements for preserving sensitive lands, which are helpful in enforcing the boundaries of the activity centers, and the Future Land Use Element includes open space requirements. The regulations enable CRAs in Jensen Beach and Port Salerno, which support proposed Enhanced Mixed Use activity centers "H" and "I" in Jensen Beach and "M" in the Port Salerno area (Cove Road east of US 1). More information is needed to determine if the regulations pose any conflicts with the proposed High Density Residential area "J" around Martin Downs Boulevard and CR 714 or with the proposed Industrial area "L" at I-95 and Kanner Highway. Key supporting regulations include the TDR for wetlands areas, payment for parking in Port Salerno, and the Mobility standards (Figure 4).
Stuart	The plan includes goals and land use categories to promote mixed-use development throughout the city, including more blending of compatible uses in single-use areas. It includes requirements to buffer different land uses, but also a requirement that different uses would be easily accessible to one another by vehicle or foot to encourage connectivity for mixed areas. The plan enforces conservation with requirements for preserving sensitive lands, as well as allowing for TDRs, cluster development, buffer zones, and conservation easements. It also calls for limits on impervious surfaces and smaller, more distributed parking areas, rather than massive parking lots. It focuses attention on the river walk areas and discusses marketing itself as a walkable, enjoyable tourist destination, as well as a community for families. The plan includes several targeted areas for attention and funding, including the Downtown Redevelopment area, Neighborhood/Special Districts, the East Stuart area, and the Urban Code Overlay Zone for the downtown Transportation Concurrency Exemption area. The plan includes a policy (A7.6) for administrative relief to ensure that property owners are not deprived of reasonable economic use of their property; this is important to have in place if land use restrictions are fought in court. The regulations are consistent with the plan and appear to be fully supportive of the Phase 1 study recommendations for activity center development in the Stuart area. Innovative programs, such as Payment in Lieu of Parking and the requirement for transit stops in large developments, are proactive methods that can be explored by other communities in the study area.

Table 4: Plans & Ordinances Related to Phase I Study Recommendations (Cont.)

Develop Mixed Use Activity Centers (Map 1) (Cont.)	
St. Lucie County	The plan includes an Urban Service Boundary whose intent is to restrict the negative impacts of sprawling low density development. It appears all the proposed activity centers in the Phase I study are within the Urban Service Boundary. Most of the land use categories allow for mixed uses that are compatible and appropriate, such as small convenience store centers adjacent to residential areas. The plan should require vehicle and pedestrian access to ensure that mixing of different uses does not result in traffic problems. The plan includes a category for mixed use districts, but puts a priority on working within the existing land use categories rather than changing them to the mixed use category. "Application of this district should be with prudence and should be only to those areas where traditional land use classifications do not afford the desired flexibility and community input in land use planning necessary to address local concerns." The Recreation and Conservation Elements include requirements for preserving sensitive lands, which are helpful in enforcing the boundaries of the activity centers, and the Future Land Use Element includes open space requirements. The regulations are consistent with the plan and include several mixed use district categories and processes that allow for conversion over time of some single-use areas to mixed use activity centers. They identify some specific locations, such as the River Park and Hutchinson Island areas, for targeted development. As the River Park subdivision adds neighborhood commercial uses to the intersection areas noted in the ordinance, it can become a residential activity center that complements the proposed nearby Phase I study commercial area on St. Lucie Boulevard, which is in the same corridor as River Park. This could facilitate transit service between the two locations. The regulations also call for nearly all new streets in the urban service area to include sidewalks and bicycle lanes.
Port St. Lucie	The Future Land Use, Housing, Transportation and Economic Development Elements include a variety of goals supporting mixed use development and redevelopment in targeted areas. These areas are the Darwin Square area at Gatlin/ Port St. Lucie Blvd; the City Hall area at Arioso & Port St. Lucie Blvd; the Town Center area at Lennard/ Port St. Lucie Blvd, and a possible new interchange [River Trace] at Becker/Fl. Turnpike. These areas appear to be consistent with the Phase I study. The plan includes specific definitions of the components of pedestrian-oriented mixed use development and some architectural drawings of appropriate residential building types. These could form the basis for a set of graphics that depict the mixed use areas supporting the text and helping to identify any unintentional internal conflicts. The land use plan focuses much attention on the need to assemble and/or convert uses of the vast amount of vacant platted residential land in order to focus growth. The Housing Element places emphasis on affordable housing and supports land use regulations that promote home ownership and a mix of housing prices. The Conservation Element includes specific requirements for protecting environmentally sensitive areas. The regulations include categories for Planned Unit Developments, Limited Mixed Use Development, and Neighborhood Convenience uses that support the creation and connection of mixed use centers. They also include a Land Conversion Manual that targets specific areas for a variety of zoning conversions over time. The four Port St. Lucie locations identified in the Phase I study all appear to include designated Land Conversion areas (Figure 1, PSL Land Use Conversion Areas). Regulations for overall densities, pedestrian-oriented design, and automobile reduction strategies, such as shared parking, may need to be further refined in order to promote transit-oriented development.

Table 4: Plans & Ordinances Related to Phase I Study Recommendations (Cont.)

Develop Mixed Use Activity Centers (Map 1) (Cont.)	
Fort Pierce	The Future Land Use, Housing, Transportation and Port Development Elements include goals for mixed use development and redevelopment, particularly in the Port area. Thirteen planning areas are identified, with the most descriptive information in the Port Element. In particular, it features a valuable list of components for pedestrian-oriented mixed use development. The Future Land Use Element notes several regulatory tools, such as flexibility in zoning, so that the uses of buildings can change in mixed use areas over time without plan amendments. The Element also allows for fast-tracking and impact fees to support mixed use developments with affordable housing components. The City is currently doing work on design that can enhance the plan with more specific requirements and graphics. Schools and public facilities are noted as potential community centers in most major land use types. The Conservation Element includes specific requirements for protecting environmentally sensitive areas. The regulations are much simpler than the plan, and may not conflict with it, but do not actively inform it. The proposed Enhanced Mixed Use Activity Center "A" from the Phase I study, at least partly along US 1 in Fort Pierce, is not part of any sort of special district for design or targeted investments. Regulations in this area and throughout the City regarding overall densities, pedestrian-oriented design, and automobile reduction strategies may need to be further refined to ensure the walkability and transit-oriented development envisioned in the plan. In particular, the requirement that PUD and PURD areas separate internal streets from outside streets may need to be reexamined to support a more urban grid pattern. The Martin County Mobility and road design standards (*Figure 4*) may be useful in this endeavor.

Table 4: Plans & Ordinances Related to Phase I Study Recommendations (Cont.)

Invest in Supportive Transportation Infrastructure (Map 2)	
Martin County	*Bicycle and Pedestrian:* A sidewalk inventory has been in place since early 1990's, and at least 50 percent of the County's major roadways have sidewalks on at least one side. Sidewalks are required in new developments. The plan includes a goal to complete a bike plan and notes there are virtually no bike paths in the County. It commits to building additional facilities, with prioritization for areas with high accident rates and areas that serve schools and/or parks. The Web site shows a proposed site review rating sheets for new developments and for schools, which make pedestrian access a high priority. The road design regulations call for sidewalks on both sides of all new roads and lay out a clear priority for safety of all modes, particularly bicycles and pedestrians. *Transit:* The plan references a public transit long range plan and discusses an upcoming five-year transit development plan. It quotes from studies by the paratransit agency about the growing need for transportation for the elderly, people with disabilities, and lower-income people living in the western side of the County who work in the east. No specific locations for local or express bus routes have yet been identified or funded, but the plan notes a commitment to addressing this need. It also commits to supporting a proposed statewide high-speed rail system *Roads:* The proposed Britt Road Extension from US 1 (SR 5) to the Green River Parkway and the proposed widening of SR 714 from 2 to 4 lanes are not in the committed projects list or plan and should be considered for addition. The proposed widening of Cove Road from 2 to 4 lanes is in the long range plan and could be considered for moving up to the list of committed projects.
Stuart	*Bicycle and Pedestrian:* Sidewalks are required in new developments. The plan includes a goal to complete a bike plan, especially to connect residential areas to parks, schools, and shopping areas. Policy 7.5 states the City will consider establishing reduced roadway impact fees for projects that promote internal trip capture and using roadway impact fees to support multi-modal facilities. The plan supports the Green River Parkway as a bike/pedestrian corridor between the Jenson Beach CRA and the Stuart CRA. *Transit:* The plan includes goals to support the proposed Martin-St. Lucie public transit system that serves Stuart. It includes parking management strategies primarily aimed at reducing the size and amount of surface parking lots and promoting on-street parking. It also includes TDM strategies to support flexible hours, carpool matching, transit pricing, and other employer-based strategies, but it is not specific as to how these will be achieved. Policy 6.3 calls for a regional study of the effects of urban sprawl on transit usage and feasibility. It commits to identifying appropriate park and ride and transfer station locations. Policy 7.8 includes a requirement for any new non-residential development of 20,000 sq ft or more to include pedestrian and bicycle amenities and any commercial development requiring 200 or more parking spaces to include a plan for a transit stop. *Roads:* The plan includes a proposed access management plan that promotes joint use access to streets and between properties and parking requirements for motorized and non-motorized vehicles. It includes a goal to determine options for routing traffic away from US 1, particularly the Green River Parkway and the extension of Willoughby Boulevard, in conjunction with Martin County. It also includes a "fix-it-first" type of policy (5.4) to emphasize intersection improvements and synchronization of signals before widening roads. It includes a goal to investigate and encourage passenger Tri-Rail service within Stuart. All the Stuart road projects in the proposed Community Centers alternative are included in Stuart's Committed Projects list, and there do not appear to be projects in the plan or committed projects list that are not needed in the Community Centers alternative.

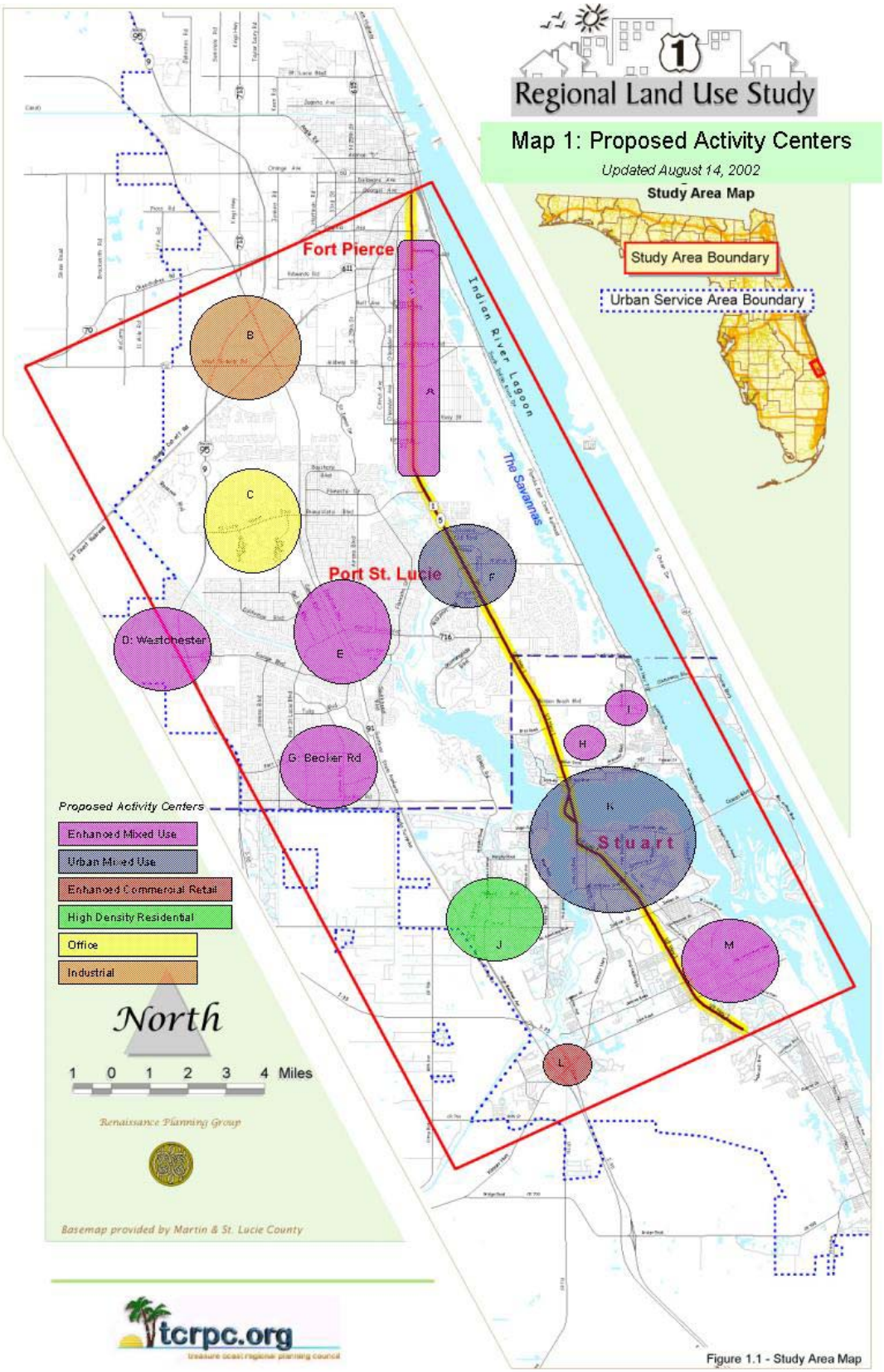
Table 4: Plans & Ordinances Related to Phase I Study Recommendations (Cont.)

Invest in Supportive Transportation Infrastructure (Map 2) (Cont.)	
St. Lucie County	*Bicycle and Pedestrian:* The plan includes a goal to adopt a county-wide bicycle, pedestrian, and greenway plan by 2003. It includes several related goals for data development, such as accident and facility inventories, and goals for requiring sidewalks and bicycle facilities in land development regulations for new development and schools. Development regulations require virtually all new streets in the urban service area to include sidewalks and bicycle lanes. The ordinance includes reserved sections, yet to be written, that will specify design standards for bicycle and pedestrian facilities and for internal trip capture. *Transit:* The plan concentrates its transit goals on support for Community Transit, a reservation-based paratransit system run by the Council on Aging, similar to the arrangement in Martin County. It notes there is no fixed-route transit in the County and identifies several programs such as Welfare to Work, Job Access, and Charity Cars related to paratransit. The Transportation Element describes in detail the proposed routes and services under various transit scenarios developed by the MPO, and commits to developing a specific transit plan, in cooperation with Martin County for both local bus routes and exclusive mass transit corridors, including efforts to expand passenger rail to the cities and urban areas of St. Lucie County. It also includes goals to ensure land use is planned appropriately to make transit viable. *Roads:* The Phase I project to expand West Midway Road from I-95 (SR 9) to South 25th Street is not on the list of committed or planned projects and should be considered for inclusion. The proposed widening of West Midway Road from South 25th Street to US 1 (SR 5) is on the long range plan and could be considered for moving up to the list of Committed Projects.
Port St. Lucie	*Bicycle and Pedestrian:* The plan includes a reference to a bicycle and pedestrian master plan now underway. It notes bikeways and sidewalks will be constructed on US 1 from Port St. Lucie Boulevard north to the City limits and along Midport/ Tiffany Avenue, Walton Road, and Bayshore Boulevard. The City has also been working to create bicycle/pedestrian connections among cul-de-sac communities, noting success with the St. James and Sawgrass Planned Unit Developments. Sidewalks are required in new developments. *Transit:* The plan includes a description of the paratransit service and goals to work with the County and the region on studying and implementing regional mass transit and the state's proposed high speed rail network. Supportive goals in other section include land use plan goals for pedestrian-oriented mixed use centers and road plans to create arterial corridor connections among the array of linear roads built for vested residential lots. The plan also allows for reducing the size and amount of parking with new development, but notes no plans to build structured parking *Roads:* The Phase I projects to expand Prima Vista Blvd from Interstate 95 to US 1 (SR 5) and to expand West Virginia Drive to connect I-95 to US 1 are not on the list of committed or planned projects and should be considered for inclusion.

Table 4: Plans & Ordinances Related to Phase I Study Recommendations (Cont.)

Invest in Supportive Transportation Infrastructure (Map 2) (Cont.)	
Fort Pierce	*Bicycle and Pedestrian:* The Transportation Element identifies a Special Transportation Area for the downtown on US 1 from the city's northern limit to Virginia Avenue that calls for integrated land use/transportation management measures and lower LOS standards. It includes impact fees, requirements for multi-modal transportation in new development, and other measures to fund facilities and preserve rights of way. Policies require development of bicycle and pedestrian facilities as part of new development and give funding priority to projects with multi-modal components. A city-wide bicycle and pedestrian master plan is not noted, nor is there a specific goal to create one. *Transit:* The plan includes a goal for transit development concurrent with the success of the plans for the regional fixed route program. Supportive goals in other sections include land use plan goals for pedestrian-oriented mixed use centers. The plan also allows for reducing the size and amount of parking with new development. *Roads:* The Phase I project to expand South 25th Street (SR 615) from West Midway Road to Edwards Road is on the list of committed projects. No other Fort Pierce road projects are included in the Community Centers alternative. Fort Pierce does not appear to have road projects in its plan that conflict with the Phase I study.

Map 1: Proposed Activity Centers



Map 2: Proposed Transportation Projects

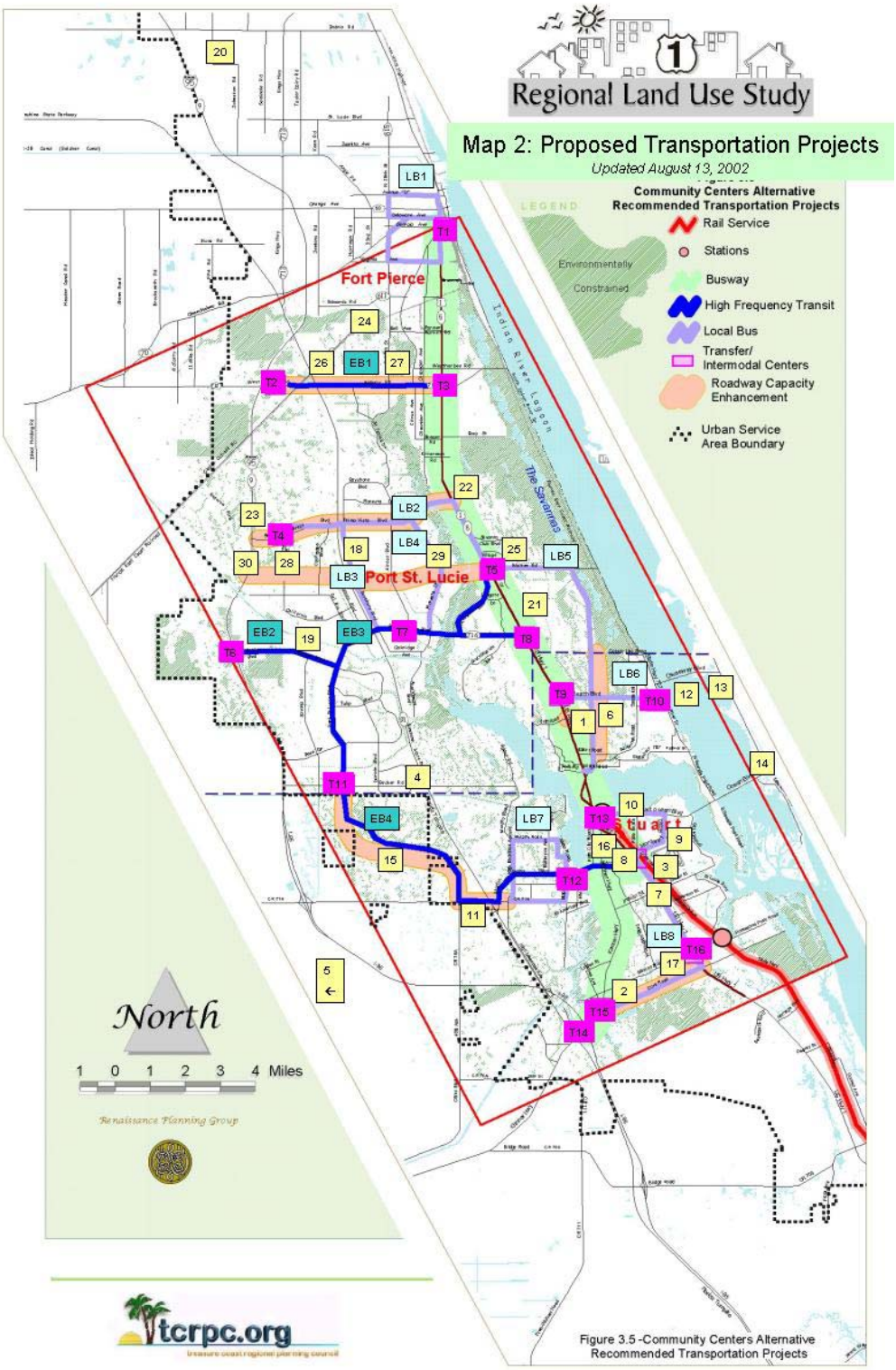


Figure 1: Port St. Lucie Land Conversion Areas and Phase I Study Activity Centers

INDEX TO LAND USE CONVERSION AREAS

LEGEND

CONVERSION AREA	LAND USE
	MEDIUM DENSITY RESIDENTIAL
1	PSL Blvd: Tulip Blvd. south to McCullogh Ave.
3	Gatlin Interchange
	RESIDENTIAL, OFFICE AND INSTITUTIONAL (ROI)
1A	PSL Blvd: Castenada Lane south to Tulip Blvd.
2	Gatlin Blvd: PSL Blvd. to Import Dr.
4	PSL Blvd: Aviation Ave. north to Cameo Blvd.
6	PSL Blvd: Airoso Blvd. east to Morningside Blvd.
7	PSL Blvd: Morningside Blvd. east to U. S. Highway #1
8	St. James Drive
9	Lennard Road
10	South Bayshore Blvd: Sea Holly Terr. North to Whitmore Dr.
11	PSL Blvd: McCullough Ave. south to Fair Ave. and Abraham Ave.
12	Paar Drive at Savona
13	Paar Drive at Darwin Blvd.
16	Gatlin Blvd. Area
16A	Prima Vista Blvd: Carmelite St. to Curtis St.
	LIMITED COMMERCIAL (CL)
4B	PSL Blvd. and Tulip Blvd.
17	Port St. Lucie at Paar Drive
	GENERAL COMMERCIAL (CG)
2A	Gatlin Blvd: Feather Terr. To W. Calabria Circle
4A	PSL Blvd: Tulip Blvd. north to Aviation Ave.
5	PSL Blvd: FL Turnpike east to Best St.
11A	PSL Blvd./Becker Road vicinity
20	North Bayshore Area
21	South Bayshore Area
22	Central Bayshore Area
23	Gatlin Blvd.
	COMMERCIAL SERVICES (CS)
20A	North Bayshore Area
24	Gatlin Interchange
25	South Bayshore
26	Central Bayshore Area
	HIGHWAY COMMERCIAL (CH)
27	Gatlin Interchange
	LIGHT INDUSTRIAL (LI)
20A	North Bayshore Area
25	South Bayshore
26	Central Bayshore Area

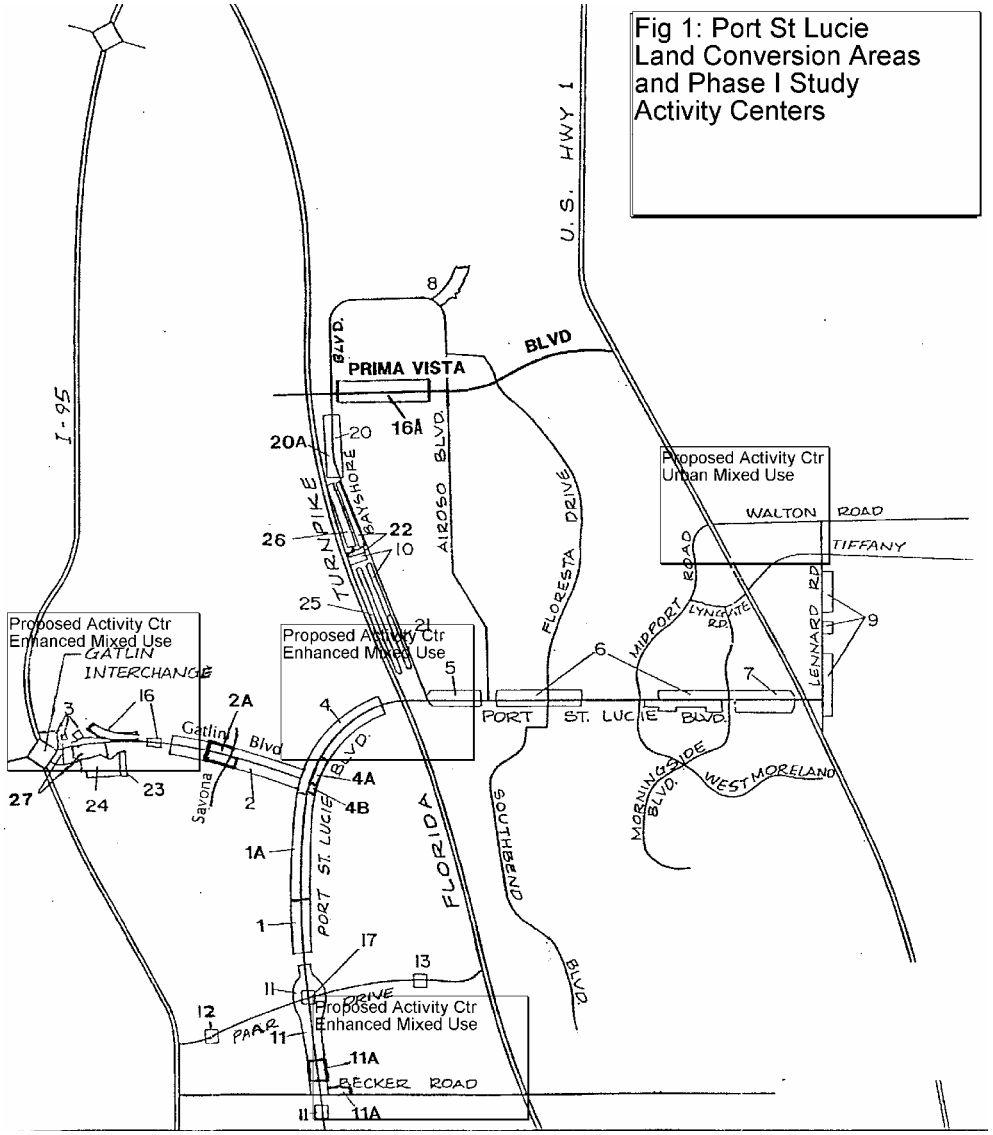


Figure 2: Martin County Community Redevelopment Area (CRA)

JENSEN BEACH, CRA
DEVELOPMENT STANDARDS

Maple Street Town Commons **District VI**

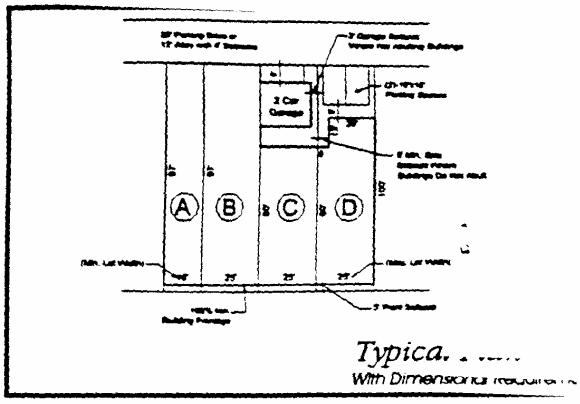
OR BK 01568 PG 1509

Building Requirements:

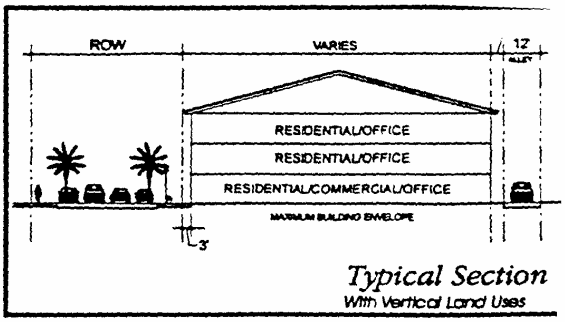
Maximum lot size, square feet.....NA
Minimum lot width and minimum
lot frontage on dedicated right-of-way, feet.....16'
Maximum lot width and maximum lot frontage
on dedicated right-of-way, feet.....25'
Maximum building coverage, percent (less setbacks).....100%
Maximum building size,
square feet of gross floor area.....NA
Maximum gross floor area per use.....NA
Minimum building frontage, percent of lot frontage.....100%
Required front setback, feet.....3'
Allowed front setback encroachment-
first floor, ...0
Allowed front encroachment-
second floor.....0
Allowed side setback encroachment -
first floor.....NA
Allowed side setback encroachment -
second floor.....NA
Minimum side setback, feet (one side).....0 or 5'**
Minimum combined side setback, feet.....0 or 10'**
Minimum rear setback, feet.....NA
Maximum building height, feet (to bottom
of roof sill plate.....30'
Minimum building height, feet.....20'

12' rear alleys with 4' setbacks required behind lots.

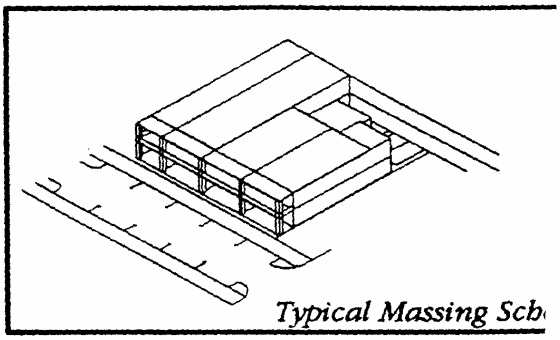
**Buildings are permitted with 0' setbacks (attached or on the property line). If they are not set on the property line, then the minimum setback is 5' (no building may be setback between 0'-5'). 100% minimum building frontage requires buildings to be attached along lot frontage.



Typica...
With Dimensional Requirements



Typical Section
With Vertical Land Uses



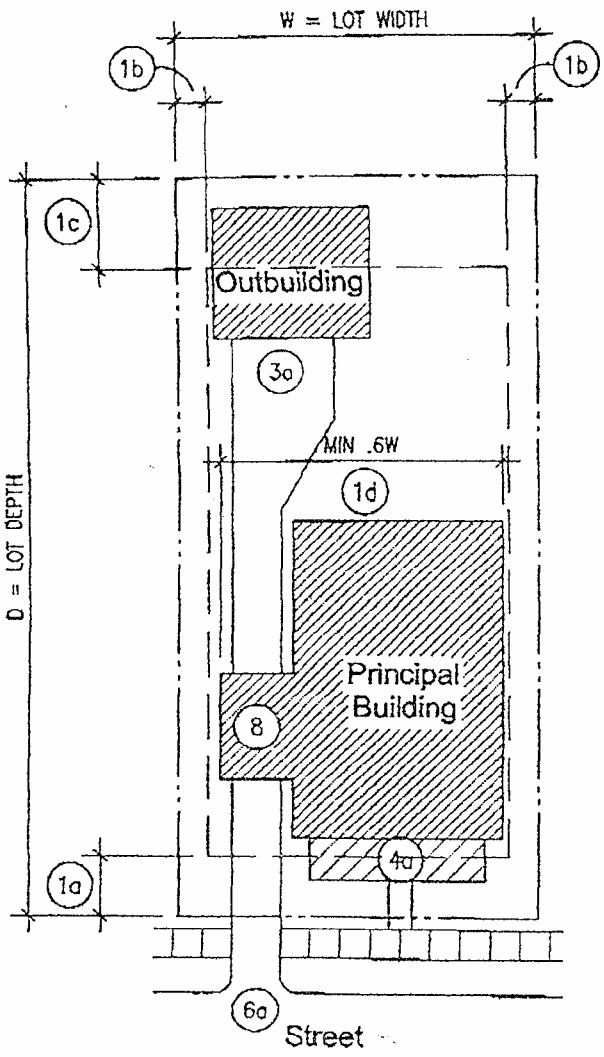
Typical Massing Sch

Representational Image

CIRCUIT COURT MARTIN COUNTY, FLORIDA

Figure 3: Stuart Design Based Regulation

Exhibit 3.01.05.3B - Urban General



Code Summary

1. PRINCIPAL BUILDING PLACEMENT
   - (1a) FRONT SETBACK = 10 FT
   - (1b) SIDE SETBACKS = 5 FT
   - (1c) REAR SETBACK = 15 FT
     MAY BE 5 FT FOR OUTBUILDINGS
   - (1d) BUILDING WIDTH MUST BE AT LEAST 60% OF LOT WIDTH
2. PRINCIPAL BUILDING HEIGHT
   - (2a) MAXIMUM OF THREE STORIES; FOURTH STORY PERMITTED IF 50% OF AREA IS RESIDENTIAL OR HOTEL
3. PARKING
   - (3a) LOCATED BEHIND PRINCIPAL BUILDING
     SCREENED FROM PUBLIC RIGHT-OF-WAY
     SETBACK A MINIMUM OF 60% OF LOT DEPTH FROM FRONT RIGHT-OF-WAY
4. ARCHITECTURAL REQUIREMENTS
   - (4a) PORCHES REQUIRED ON FRONT FACADE
     MINIMUM WIDTH = 50% BUILDING WIDTH.
     MAY PROJECT 4 FT INTO FRONT SETBACK
6. CURB CUTS
   - (6a) NO MORE THAN ONE EVERY 50 FT
     NONE IF PROPERTY HAS A REAR ALLEY
8. OTHER
   - (8) PORTE-COCHERE IS CONSIDERED PART OF BUILDING AND NOT PARKING

Figure 4: Martin Mobility Standards

Section 4.19.4. Mobility and Connectivity.

The purpose of Section 4.19.4 is to discourage the use of local streets for cut--through traffic while maintaining the overall connectivity of the roadway system. Section 4.19.4 also provides for bicycle/pedestrian connections between neighborhoods under certain circumstances. The provisions of Section 4.19.4 are intended to improve the safety and convenience of walking and bicycling; facilitate emergency access; reduce vehicle miles traveled; help preserve the use of major roadways for through traffic by providing alternative routes for short local trips and reduce the need for continued road widening which divides neighborhoods with wide expanses of pavement that are difficult and hazardous to cross. In addition it is expected that these provisions will reduce environmental damage by allowing more compact layouts of streets and lots.

A. Connectivity with Surrounding Streets.

All new developments shall be designed to discourage the use of local str[illegible] by cut-through traffic while maintaining the overall connectivity with

Figure 4: Martin Mobility Standards (Cont.)

surrounding system of roadways. This may be accomplished through the use of modified grid systems, T-intersections, roadway jogs, or other appropriate traffic calming measures within the development. The following are also encouraged:

1. Coordination of the street system of a proposed subdivision with existing, proposed and anticipated streets surrounding the subdivision.

2. The extension of proposed streets to the boundary lines of the development where such an extension would connect with streets in an existing, platted or planned development. The extension or connection should be based upon traffic circulation or public safety issues and compatibility of adjacent land uses.

3. When a proposed development abuts unplatted land or a future development phase of the same development, stub streets should be provided to provide access to abutting properties or to logically extend the street system into the surrounding areas. All street stubs should be provided with a temporary turn-around or cul-de-sac, and the restoration <u>of the temporary turn-around or cul-de-sac,</u> and extension of the street should be the responsibility of any future developer of the abutting land.

B. Bicycle and Pedestrian Access.

1. Opportunities for bicycle/pedestrian mobility should be enhanced through site design strategies and bicycle/pedestrian access ways that seek to shorten walking distances and increase accessibility between neighborhoods, schools, recreation areas, community centers, shopping areas or employment center as follows:

   a. Sidewalks connecting residential developments to the sidewalk system of surrounding roadways.

   b. An accessible route within the boundary of a site shall be provided to meet the requirements of the Americans with Disabilities Act.

   c. Bicycle/pedestrian ways connecting residential developments and or nearby schools, neighborhood community centers, churches, parks, commercial and office developments, or other compatible land uses.

2. Where the decision <u>maker</u> ~~making body (Development Review Comm~~ ~~for minor projects~~; ~~Board of County Commissioners for major projects,~~

Figure 4: Martin Mobility Standards (Cont.)

Article 4, Section 4.19. Roadway Design. *Sec. 4.19.4. Mobility and connectivity.*

determines that a bicycle/pedestrian connection is desirable from a subdivision to schools, parks, playgrounds, or other roads or facilities and that such access is not conveniently provided by sidewalks adjacent to the streets, the developer may be required to reserve an unobstructed easement to provide such access.

3. Commercial development should be designed to support bicycle and pedestrian mobility in accordance with the following:

   a. Safe and convenient pedestrian ways should be provided between parking areas and from the building entrance to surrounding streets, external sidewalks and development outparcels. Pedestrian ways may be constructed of paver blocks, concrete, or other suitable materials. Pedestrian ways that traverse parking areas should include reflective striping.

   b. Pedestrian circulation should be provided between abutting commercial properties through the use of walkways and similar pedestrian-oriented facilities.

   c. Pedestrian facilities may be incorporated into the required landscape buffer.

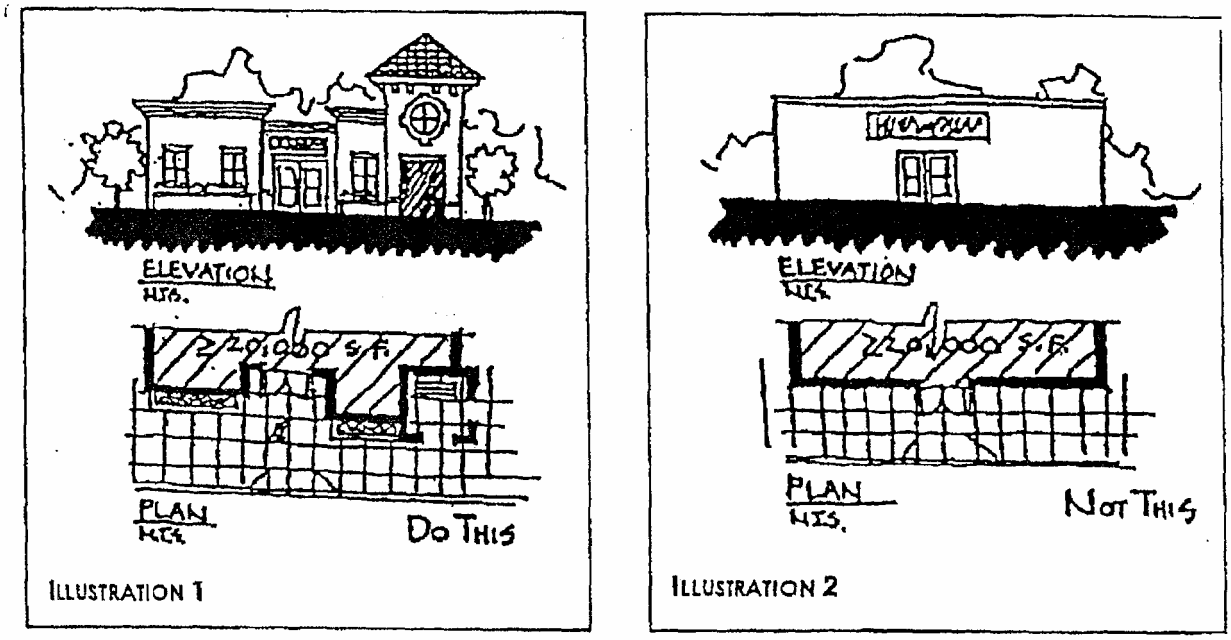
4. Bicycle and pedestrian amenities, such as benches, drinking water fountains, or bicycle racks, should be provided for commercial developments of 10,000 square feet or more of gross floor area in accordance with the following schedule:

Gross Floor Area of Project	Required Bicycle or Pedestrian Amenity
10,000-50,000 square feet	One bike rack, one bench
50,001-100,000 square feet	Two bike racks, two benches, outdoor drinking water fountain
100,001+ square feet	Four bike racks, four benches, outdoor drinking water fountain

   a. Bicycle racks should be of the inverted "u" type or as approved during site plan review.

   b. Bicycle racks should be located within fifty (50) feet of the main entrance of the primary building.

Figure 5: Stuart Example of Pedestrian-Oriented Building Design



TECHNICAL MEMORANDUM 7: SMART GROWTH IN NORTH AMERICA, A SURVEY OF LESSONS LEARNED

Prepared for:

TREASURE COAST REGIONAL PLANNING COUNCIL

Prepared by:

RENAISSANCE PLANNING GROUP

June 2003

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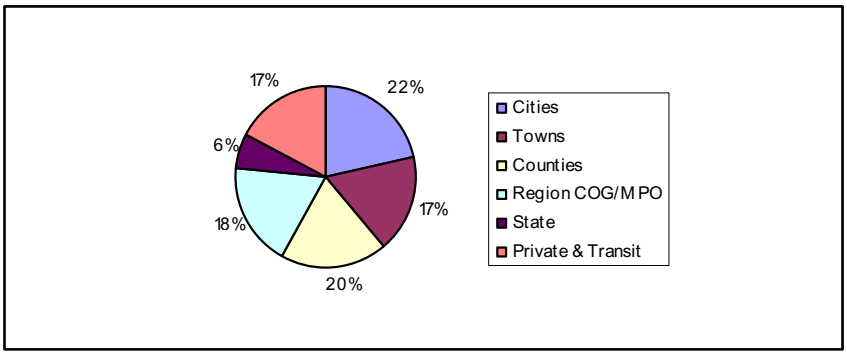
SMART GROWTH IN NORTH AMERICA– A SURVEY OF LESSONS LEARNED

INTRODUCTION

The following report presents a review of a national smart growth survey conducted for St. Lucie and Martin Counties and the Cities of Fort Pierce, Port St. Lucie, and Stuart. This survey was recommended in Phase I of the Martin and St. Lucie County Alternative Land Use Assessment. Sponsored by the Treasure Coast Regional Planning Council in Stuart, Florida, the survey's purpose was to help the council identify policies and tools that could support the planned network of walkable, transit-oriented activity centers identified in the Phase 1 study. The survey was supported by funding from the FHWA Transportation and Community and System Preservation Program.

The survey questionnaire, distributed during the summer of 2002, was based on the 100 policies for smart growth implementation outlined in "Getting To Smart Growth," published by the Smart Growth Network this spring. Forty-eight people responded to the survey, which was conducted online through a web site and advertised through planning-related listservs and online newsletters. Respondents hailed from 21 states, including a Canadian province, and represented a variety of local, regional, state agencies (Figure 1). Respondents also included a private non-profit group, a citizen activist and two consultants, one of which staffed a transit authority. Respondents also were asked about the primary industries in their regions and the fastest-growing areas in their jurisdictions Results are summarized in Figure 2.

Figure 1: Respondent Characteristics Types of Governments & Organizations



States and Provinces

California	1
Colorado	1
Connecticut	4
Florida	1
Georgia	6
Louisiana	2
Massachusetts	1
Maryland	1
Maine	5
Montana	1
North Carolina	5
New Brunswick, Canada	1
New Hampshire	1
New Mexico	1
New York	1
Pennsylvania	1
Texas	3
Virginia	6
Vermont	3
Wisconsin	1
Not reported	2

Population

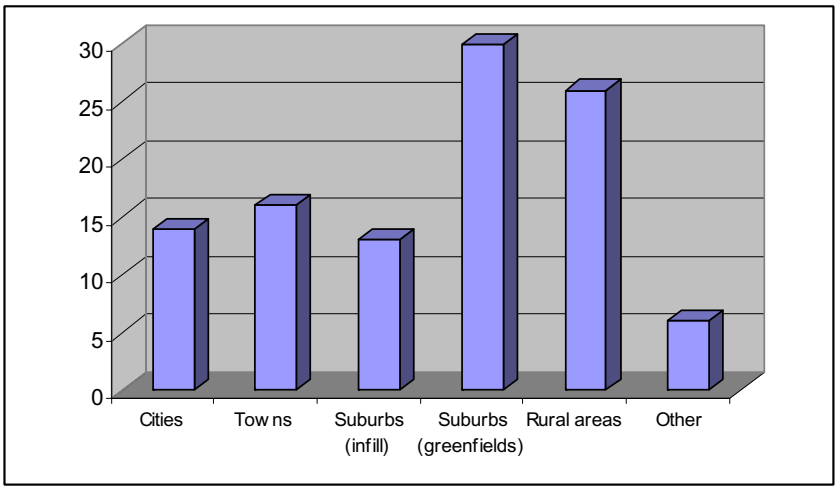
	2000 Population	1990 Population	Percent Change
Smallest	4,200	3,700	14%
Largest*	9,500,000	8,600,000	7%
Median	77,000	72,000	7%

Land Area (square miles) and Density

	Land Area	Density
Smallest	3.2	15
Largest	54,310	66,667
Median	106	425

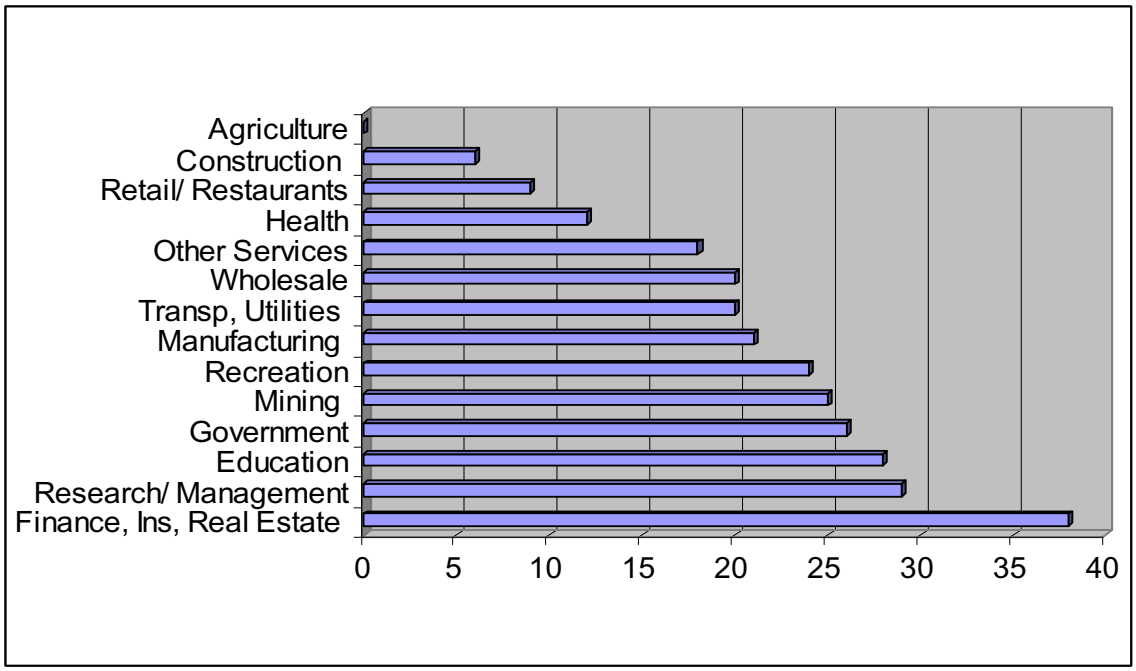
Figure 2: Growth Trends and Major Employers

Primary Growth Areas (Percentage of responses)



Growth, as estimated by respondents for their regions, is occurring primarily in suburban greenfields and rural areas, shown by a combined 53% response, compared to existing cities, towns, and suburban infill with a combined 41% response.

Primary Industries (Percentage of responses)



Major industries in respondents' regions include finance, insurance & real estate, followed by research and management (including engineering and accounting), education, and government.

APPLICATION OF SMART GROWTH POLICIES

The survey included a checklist of ten smart growth principles and ten policies that support each principle, for a total of 100 policies. The list was based on the Smart Growth Network (SGN) publication "Getting to Smart Growth: 100 Policies for Implementation." Respondents noted each of the policies used in their region.

The Need For Collaboration Affects Implementation

Principles most frequently applied involved actions that local governments and regional councils directly can influence through planning, regulation, and local public investments. Examples include communication, neighborhood infrastructure, and preservation of rural areas. Principles that depend more upon collaboration among localities and transportation agencies or private developers were applied to a more moderate degree. Examples are the development of more transportation choices and mixed-use communities. Principles that required close communication and involved potential conflict with developers were applied the least frequently. These principles include affordable housing regulations, financial incentives for neighborhood redevelopment, and more predictable decision-making.

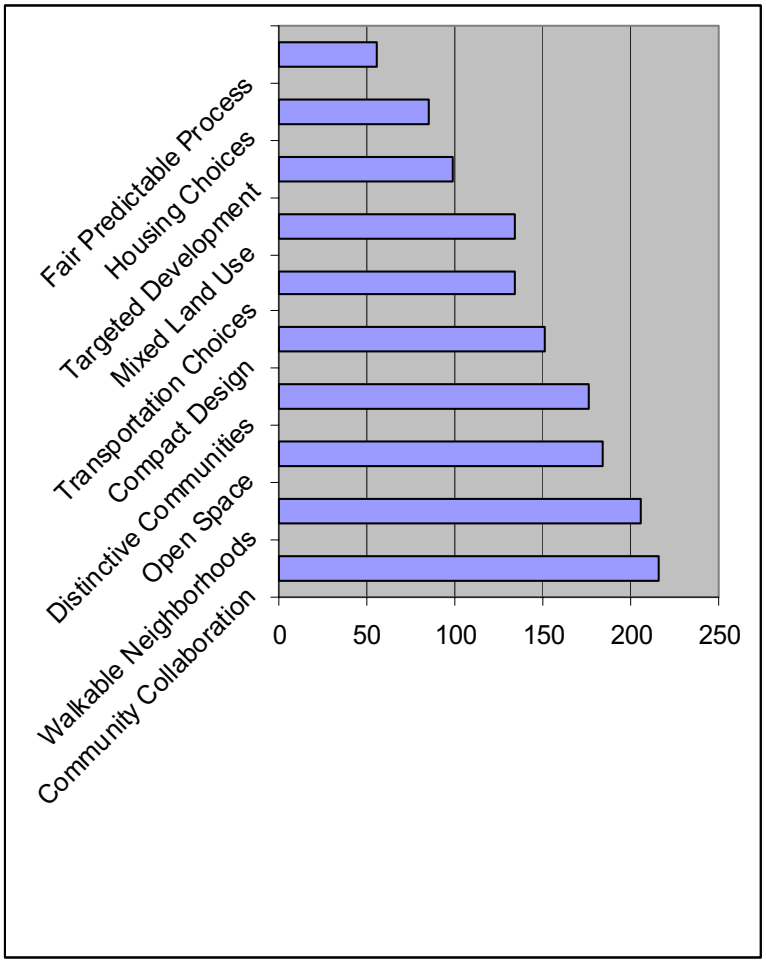
Policies Applied Within Each Principle

Figure 4 highlights the frequency of use of specific policies. As noted above, policies that can be implemented directly by a locality are more frequently applied than policies that require more complex communication, collaboration, and/or funding partnerships with other agencies and the private sector. Additional comments provided in survey responses are noted below:

Simplifying and Strengthening Regulations:

- Creating additional layers of zoning that "restrict" activities may not work. Increasing flexibility of existing regulations or eliminating unnecessary regulations may be better strategies.
- Eliminate jargon and complexity in codes; use drawings or images to illustrate intent.
- Local municipalities need clear statutory support.

Figure 3: Number of Policies Checked For Each Smart Growth Principle



Respondents reported the most activity around the areas of (1) community collaboration and (2) creating walkable neighborhoods.

The next most frequently applied policies focused on (3) preserving open space and (4) fostering distinctive communities. This was closely followed by policies supporting (5) compact design.

Policies that supported (6) transportation choices and (7) mixed land use were applied in equal numbers.

The three areas in which respondents were the least active included (8) targeting development toward existing communities, (9) creating housing choices, and (10) making the development process fair and predictable.

Figure 4: Policies By Frequency Of Use

Principle (Number of policies checked)	Most Frequently Cited Policy (percent of policies checked within category)	Least Frequently Cited Policy (percent of policies checked within category)
1. Encourage community and stakeholder collaboration in development decisions (216)	Community visioning exercises (16%)	Public access to tax and lien information (1%).
2. Create walkable neighborhoods (206)	Access for people with disabilities & sidewalk design standards (14%)	Economic activities to stimulate pedestrian activity (5%).
3. Preserve open space, farmland, natural beauty and critical environmental areas (184)	Greenways networks (18%);	Green infrastructure plans (4%).
4. Foster distinctive, attractive communities with a strong sense of place (176).	Plant trees (18%);	Funding and standards for neighborhood schools & permitting sidewalk vendors (3%)
5. Take advantage of compact building design (151)	Regional plans for compact communities (15%)	State-level model design standards and codes (3%)
6. Provide a variety of transportation choices (134)	Require sidewalks in new development (18%)	Modify roadway LOS in areas served by transit (1%).
7 (tied with 6): Mix land uses (134)	Innovative zoning (25%)	Zone by building type & create incentives to encourage people to live near work (2%)
8. Strengthen and direct development toward existing communities (99)	Support community-based organizations to revitalize neighborhoods (22%)	Split-rate property taxes (1%)
9. Create a range of housing opportunities and choices (85)	Zoning & building codes allowing a variety of housing (29%)	Education on resource-efficient mortgages (4%);
10. Make development decisions fair, predictable and cost-effective (56)	Displaying zoning regulations in pictorial fashion (29%)	Consumer incentives for smart growth (4%)

Developing Infrastructure and Financing:

- Financing public infrastructure is key to promoting Smart Growth.
- Innovative use of transportation funds can be a catalyst for sustainable development projects.
- Pedestrian systems need a lot of help; as most are poorly designed and maintained.
- Tax base sharing or regional forms of revenue generation and spending, such as special tax districts or functional authorities, are key.

Nurturing Leadership and Collaborative Planning:

- Sponsor leadership trips to comparable cities to obtain case studies of successes and failures.
- Seek improvements that benefit landowners and community alike.
- Build an ethical framework for decision-making and staff/board relations.

- It has to come from the top down; heads of the localities need to adopt policies that [staff] can implement. The state could start with making it a law/regulation that all localities would have to follow.
- Identify future development patterns under the status quo and see if people find them acceptable.

INTERVIEWS

Interviews were conducted with a sampling of respondents, including regional planners from Maine, Texas and Los Angeles; city planners from New Brunswick, Canada, and Manchester, Vermont; a planner for a Houston transit agency who had also worked in Seattle; a state DOT planner in Virginia and a citizen activist in Albuquerque, New Mexico. The following comments are excerpted from their responses.

1. Please describe a little more about the strategies that have been used in your region.

- Limiting highway access (DOT practice), the Statewide Great American Neighborhoods program, local comprehensive plans, and the Scenic byways program have all supported smart growth in Maine.
- A citywide subdivision and zoning bylaw that prevents unserviced development is effective in New Brunswick. The city focuses on attracting quality multiple family development by helping people understand the financial trade-offs of buying a home in the city.
- Seattle's growth management law and urban growth boundary made the zoning enforceable and provided incentives.
- Houston has accomplished a lot through the creation of small tax increment financing districts. Parking is expensive, so many of the new places have little. In Fort Worth, their preoccupation was to get more parking downtown to entice people to go there. But in Houston, people come downtown with less parking because the amenities are all there.
- The Third Street Promenade in downtown Santa Monica is a successful pedestrian mall with a nearby transit hub and housing above the retail spaces.
- Pasadena recently took down a 20-year old indoor mall and replaced it with an open-air mall of boutique-type businesses that has a village feel and includes rental units above the stores.
- Transit oriented development around Metro stations and transit/ ridesharing subsidies and incentives like Metrocheck and Guaranteed Ride Home are making a difference in northern Virginia.
- We have a long-term outlook in Manchester. We believe regulations are not just about forestalling bad things from happening, but about shaping the future. We "undeveloped" a

former tannery in the center of town that had converted to a car dealership. After the car dealer died, the town bought the parcel and turned it into a town green. Some 800 people donated money, time or materials to the project.

- The North Central Texas COG/ MPO Land Use / Transportation Joint Venture Program awarded over $40 million in federal transportation funds to sustainable development projects.
- Albuquerque's Planned Growth Strategy focuses on models for infill & redevelopment in walkable neighborhood design, as well as policies for implementation.

2. What have been the outcomes – positive or negative – from implementing smart growth policies in your region? Have some been unexpected?

- Awareness about the cost of sprawl, attitudes toward planning, and a lot of interest in alternate modes of transportation have all improved in Maine.
- Houston shows that evolution of the city is a function of the market. It's real mixed-use development, and it can be messy.
- Rural large-lot zoning to curb sprawl drives up housing prices in Virginia. Concentrating development in an attractive community like Manchester, Vermont, has resulted in prices going up.
- In north central Texas, the number of town center projects has increased dramatically in the past few years, in part due to local acceptance, and in part due to market demand shifting.
- In Albuquerque's downtown, an old high school that sat empty for 25 years has been converted to lofts, a polluted sawmill has been cleaned up and converted to multiple family housing, and there are two new high-density residential areas right downtown. Affordable housing is included in the mix.

3. What would you say were the key factors behind the successes in your region?

- State mandated shoreland zoning to protect the Maine coastline has given localities an opportunity to try zoning without having to take direct political heat for it. We've also benefited from DOT support, which has more money than the state Planning Department and a vested interested in seeing its roads avoid congestion.
- Developers in New Brunswick have seen that there's money to be made from density, if you recognize and capitalize on the right opportunities.
- If it encourages retail business and housing to succeed, it will work. The key factors in Los Angeles are political commitment and a sound, sustainable economic base.
- Focus on the size and scale of development to fit the community. In Manchester, we make McDonald's or other chain stores build to our standard. When it comes to transportation, we provide for people over vehicles.
- We take little steps within a clear context of Manchester's big picture. We don't wait for the perfect package to be put together. We build it as the opportunities arise.

- Regional cooperation and vision on the part of our Regional Transportation Council have been key factors, as well as partnerships.
- In Albuquerque, it's been continued negotiation. The motivation for success is to avoid breakdowns and find consensus. No one wants to continue the conflict.

4. What were the key factors behind the unsuccessful experiences in your region?

- The need for low and moderate-income housing is putting a lot of pressure on Maine's inland areas. That kind of growth can really overwhelm a town of a hundred.
- Design. Success at encouraging compact developments in New Brunswick is going to depend largely on whether people will like the way they look and feel enough to want to live in or next to them.
- The basic building blocks of neighborhoods just don't sell in New Brunswick's far-flung suburbs because people spend their days in the city and in the car. The front porches and sidewalks of the neo-traditional suburbs can sit empty because the residents are just not there to walk around, much less support all the civic activity it takes to form a real community.
- In Houston, there is no regional consistency, no vision for regional arterials or networks. This is creating traffic nightmares.
- If the local environment is really depressed, it is very hard for anything to take off. This problem is intertwined with Los Angeles' larger issues of economics, social inequity, and racism that smart growth alone really can't fix.
- Because of the appellate process in Vermont, it's easy a project to be tied up in court for years.
- Misconceptions in north central Texas about smart growth and sustainable development have had to be overcome, as well as financial constraints like the cost of asbestos cleanup.
- Financial interests. When people in Albuquerque feel their ability to make money is threatened, they rear up.

5. Based on your lessons learned to date, what are the most important factors to which TCRPC should pay attention as they embark on implementing smart growth?

- Regional councils have to be adept at working between the state and local agendas as mediators and educators.
- Look for related programs that can leverage smart growth plans, like scenic byways, land trusts, public health. Programs that enable people to spend less time driving are very popular.
- It's to a city's benefit to support the rural environment. Cities should fund and participate in rural preservation planning and investments.
- Package the message in such a way that people actually do understand the consequences of investing in "dumb growth" and are encouraged to made different decisions.

- Understand your culture. In Seattle, success depends on citizen-driven political support. In Texas, regulations are much less stringent, so strategies that support market-driven development play an important role.
- It's not genius stuff, it's just good planning: Preserve open space. Increase densities. Increase multi-modal transportation choices. Pay attention to design. Be aware of the political and social, and economic context. Think about the landscape. Include neighbors, stakeholders, and decision-makers.
- Nurture a cooperative relationship with between the board and the staff. Then the staff can be confident that the board will support them in upholding standards against pressure.
- Account for outside policies that affect your community's goals. For example, tax codes in the US make it more favorable for landowners in depressed neighborhoods to abandon buildings as a write-off than to redevelop them.
- Educate residents about how their own purchasing decisions are related to survival of local businesses.
- Bring all the people to the table to talk. Start by finding what you can agree upon, and what you want to have happen. This gives you a reference point to reiterate when you begin to argue.

KEY THEMES AND CONCLUSIONS

Based on this survey, a few key themes seem common to planners and citizens in towns and regions of nearly every size and culture:

Cities

Many of the success stories from the survey were are about city revitalization. Cities that have invested in planning, infrastructure and incentives over the past five to ten years are benefiting from changing demographics and market forces that are sparking a renewed interest in pedestrian-friendly, mixed use downtown development.

Suburbs

Respondents showed an intensifying interest in redeveloping and redesigning existing and newly developing suburbs, but expressed concerns about the feasibility of turning the tide in a new direction after 50 years of development patterns based on automobile accessibility. In existing suburbs, public-private cooperation and infrastructure investments will be needed to redesign them for mixed uses and/or walkability. In new suburbs, in addition to these issues, location and accessibility is a concern. Developments located in far-flung places without good

access to central activity centers are likely to add to regional congestion and travel times, even if they are well designed and include mixed uses.

Rural Areas

Preserving rural areas is perhaps the hardest task of all, because ultimately it requires saying "no" to development. Some cities and towns are partnering with private land trusts to simply buy up vulnerable land and/or development rights, while others are taking a hard line on land regulation and refusing to invest in water or transportation for rural areas. However, these actions take money and political will, which are assets that require a lot of time for a region to develop. Forces working against many rural regions in developing these assets include either very rapid growth that is overwhelming them, or desperate financial straits that make them unwilling to risk limiting any type of development. Some respondents observed that cities should be doing more to reach out and help rural areas curb sprawl, noting this is in their own best interest.

Collaboration

Every success story involves some form of collaboration, whether it is between a city and local developers or based on grass-roots coalitions involving hundreds of local residents. The most successful efforts have invested time, effort, and money to develop consensus among politicians, staff, citizens, and business leaders. Education is necessary at every level. For example, planners need to understand how developers make money in order to create incentives that will work, and citizens need to understand the political process in order to affect it. Skilled facilitators, mediators, and leaders, both recognized and unofficial, are all critical players in keeping everyone at the table focused on developing and implementing a clear, shared vision.

What's the status of smart growth in North America, and where does it need to go?

Success stories show that investments, planning and collaboration can pay off in win-win projects that contribute to a community's quality of life and are profitable for developers. Geographically, we need to continue focusing on high quality cities, while stepping up efforts on suburban infill and rural preservation. Politically, the make-or-break factor in any effort to create a sustainable community is the commitment of its people. The act of bringing together

elected officials, citizen groups, agency staff, and business leaders to shape and support a clear vision, one community at a time, is the key to long-term, nationwide smart growth.

MARTIN AND ST. LUCIE COUNTY REGIONAL LAND USE STUDY: TECHNICAL MEMORANDUM 8: STUDY EVALUATION

Prepared for:

TREASURE COAST REGIONAL PLANNING COUNCIL

Prepared by:

RENAISSANCE PLANNING GROUP

June 13, 2003

MARTIN & ST. LUCIE COUNTIES REGIONAL LAND USE STUDY PROJECT EVALUATION

The Martin & St. Lucie County Regional Land Use Study was designed to address major regional growth issues facing the two-county study area and propose a regional framework to coordinate land use and transportation decisions. Phase I of the study, completed in January 2002, culminated with a proposal to cluster development into transit-oriented, walkable Community Centers. The second phase, completed in June 2003, focused on policies and planning tools that localities can use to develop the Community Centers.

The study was funded in part by the Federal Highway Transportation & System & Community Preservation program. FHWA requirements call for evaluations of TCSP projects that address Processes, Products, and Outcomes. Although only the Phase II portion of the study was funded by the TCSP program, this evaluation encompasses both the Phase I and Phase II components because they are so closely intertwined.

A key component of the evaluation involved a survey of the Study Steering Committee, which included representatives of the five local governments in the region, FDOT, and the Treasure Coast Regional Planning Council. Six of about ten actively participating steering committee members filled out surveys and provided comments to the study team.

Product Evaluation Summary

The project evaluation focuses on key milestones such as the vacant and redevelopable land inventory, alternative land use and transportation scenarios, assessments of local plans and policies, model policies, the Village Green demonstration project, public involvement materials, and the final report. The effectiveness of these work products is judged by their explanatory power concerning existing conditions and opportunities, their ability to help the project partners reach decisions, and the degree to which they influence official policy and private market actions. Overall, the committee rated all the study products well or very well, with the strongest ratings for the Village Green demonstration project.

Process Evaluation Summary

The process evaluation examines the methods employed to identify and select a preferred land use and transportation vision for the study area, gather and analyze data needed to help define and select an alternative and integrate the preferred vision through local government plans and policies. The evaluation reflects the methods used in the study, the effectiveness of the public involvement program employed and the scheduling and timing of project activities. Overall, the committee felt the public involvement process and material were good, noting it was somewhat difficult to get a lot of involvement from the public and/or private sector interests. Some felt the study took too long and lost momentum. The soundness of the study process was rated highly. Although most of the committee agreed that ample opportunity had been provided for localities to work together on the project, some felt a higher level of commitment was needed to make sure the study was implemented.

Recommendations for Outcome Evaluation

Outcomes of the regional land use study will be evaluated according to how the selected land use and transportation vision is implemented. Some of these outcome measures may not be known for a period of years, while others can be determined within the first twelve months after the study is completed. Toward that end, the study team recommends that the Steering Committee convene annually to assess progress with study goals and provide a memorandum to FHWA describing outcomes to date. Outcome measures to be evaluated will address the following questions:

- To what extent have project partners officially endorsed the study findings and recommendations?
- To what degree have inconsistencies between the selected vision and local government comprehensive plans been resolved through plan amendments or other changes in local government policy?
- What decisions have been made by state and local agencies, such as the Florida Department of Transportation, Metropolitan Planning Organizations and local governments concerning capital improvement project priorities and funding as a result of the Regional Land Use Study findings and recommendations?

- What changes have occurred in market demand or property values within the study area after adoption of the study's recommendations by local governments?

The remainder of this report summarizes the results of the Process and Product evaluations. The report is organized around the steering committee survey, including descriptions of products and processes as well as ratings and comments from the committee.

PRODUCT EVALUATION

A. Vacant & Redevelopable Land Inventory and Analysis of Market Demand

Goal: Determine if developable land within the existing urban service area boundaries of both counties can fully accommodate projected population and employment growth through 2025, and determine the feasibility of market-based policies to implement the recommended land use scenario.

Products: The analysis indicated approximately 48,000 acres of vacant land and 9,000 acres of redevelopable land were available in the urban service area. If development continued in the current patterns, the land are would not be sufficient to accommodate the projected population and employment demands, but the proposed framework of higher-density, mixed use community centers would meet or exceed this demand without expansion of the service area.

1. The land inventory and analysis clearly identified the capacity of the recommended land use scenario.

___Strongly Disagree ___ Disagree ___ Neutral **100%_ Agree** ___ Strongly Agree

2. The land inventory and analysis clearly identified the feasibility of the recommended land use scenario.

___Strongly Disagree ___ Disagree **__33%_ Neutral 67%Agree** ___ Strongly Agree

B. Alternative Regional Development Scenarios

Goal: Develop alternative land use and transportation development scenario(s) that eliminates or at least delays the need to construct major roadway capacity expansions along US 1.

Products: Two scenarios were evaluated in detail, one for US 1 Corridor Development and one for Community Centers (Nodal) Development. The community centers alternative met the region's need to accommodate and encourage population and employment growth in while avoiding the need to construct flyovers and other costly improvement to US 1.

3. The scenarios represented the best set of alternatives to be studied and were evaluated fairly.

___Strongly Disagree ___ Disagree **_16%__Neutral** **_84% Agree** ___ Strongly Agree

Comment: Perhaps we should have evaluated a "hybrid" of two alternatives (hindsight).

C. Transportation and Land Use Plan

Goal: Recommend a framework for a viable, cost-effective transportation and land use investments to reduce congestion and create a multi-modal corridor along US 1.

Products: Proposed network of mixed use community centers among Martin & St. Lucie Counties.

4. The plan clearly addressed the goals of the study and was viable for implementation.

___Strongly Disagree ___ Disagree **_16%__Neutral** **_84% Agree** ___ Strongly Agree

Comments: Good with identifying what land use supports transit, bike, & pedestrian (alternative transportation modes)

D. Comprehensive Plan and Land Regulation Review

Goal: Assess consistency of local plans and regulatory tools with Phase 1 study recommendations

Products: Report comparing local plans and regulatory policies to Phase 1 recommendations and nationally defined smart growth policies.

5. The report provided a clear assessment of how plans and policies compared to the study recommendations.

___Strongly Disagree ___ Disagree **_16%__Neutral _84% Agree** ___ Strongly Agree

E. Identification of Smart Growth Strategies

Goal: Compile and summarize state of the art in national application of smart growth policies.

Products: Smart growth resource notebook and survey of planners across the US and Canada to identify best practices and implementation experience.

6. The resource book and survey provided a useful set of lessons learned and strategies that could be applied in the study area.

___Strongly Disagree ___ Disagree **__33%_ Neutral 67%Agree** ___ Strongly Agree

F. Comprehensive Plan Policies

Goal: Develop Comprehensive Plan Policies to support development of regional activity centers and multimodal transportation districts (MTD) to encourage developers to meet concurrency requirements through multi-modal and urban design investments.

Products: Model policies and a spreadsheet tool to help local planners set multimodal level of service goals and evaluate proposed site developments for consistency with the goals.

7. The proposed policies and the multi-modal district level of service evaluation tool were clear and applicable to the localities in the study area.

___Strongly Disagree ___ Disagree **_16%__Neutral _84% Agree** ___ Strongly Agree

Comments: Evaluation seemed highly technical.

G. Demonstration Project & Model Ordinance

Goal: Vision, phasing plan, capital improvement plan, and regulatory language for design of town center within a MTD

Products: Village Green redevelopment charrette, master plan and model urban design guidelines suitable for incorporating into local regulations for Village Green as well as other town centers.

8. The Village Green demonstration project and design guidelines provided a clear plan for the site as well as a useful demonstration for application to other localities in the study area.

___Strongly Disagree ___ Disagree ___ Neutral **50% Agree** **50%Strongly Agree**

9. Overall, the study recommendations articulate the vision well, set clear goals, and lay the groundwork for meaningful action.

___Strongly Disagree ___ Disagree ___ Neutral **100% Agree** ___ Strongly Agree

PROCESS EVALUATION

A. Public meetings & workshops

Goal: Encourage participation at each stage of the planning process by all who may be affected, and consider the public's concerns and ideas.

Products: For the Phase I study, the process included establishing a Plan Information Network (PIN) for distributing information; conducting two sets of public workshops, a display at the Treasure Coast Mall and a visual preference survey; conducting formal presentations with elected officials and civic groups; regular meetings with the project Steering Committee; and forming and meeting twice with Real Estate Roundtable advisory group.

During the Phase 2 study, regular meetings were continued with the steering committee, and study results were presented to the Real Estate Roundtable, a regional summit of local planning officials, joint sessions of the two MPO's, and the Treasure Coast Regional Council.

10. The number of public meetings, workshops, and presentations was optimal.

___Strongly Disagree ___ Disagree **17% Neutral** **66% Agree** **17% Strongly Agree**

11. The timing of meetings, workshops, and presentations was optimal.

___Strongly Disagree ___ Disagree **17% Neutral** **66% Agree** **17% Strongly Agree**

12. All who were affected by the plan were given adequate opportunities to participate.

___Strongly Disagree ___ Disagree **17% Neutral** **50% Agree** **33% Strongly Agree**

13. The planning process incorporated the public's concerns and ideas.

___Strongly Disagree ___ Disagree **17% Neutral** **66% Agree** **17% Strongly Agree**

Comment: Difficult to get a lot of public input**.**

B. Participation of Project Partners

Goal: Engage and encourage commitment to implementation among decision-makers and responsible agencies.

Products: Regular steering committee meetings; presentations to MPO and local government and planning officials at key milestones of the Phase 1 and Phase 2 studies; close involvement of Village Green property owner in redevelopment master plan.

14. The planning process engaged and encouraged commitment to implementation among decision-makers and responsible agencies.

___Strongly Disagree ___ Disagree **17% Neutral** **66% Agree** **17% Strongly Agree**

Comments: I'm not sure we got the hoped-for commitment to implement, either from staff or elected officials. We'll see.

15. The Steering Committee engaged in productive dialogue that promoted consensus on project direction and recommendations.

___Strongly Disagree ___ Disagree ___ Neutral **66% Agree** **34% Strongly Agree**

Comments: Agree, however attendance at steering committee meetings from some jurisdictions was less than desirable.

16. Private sector developers and realtors participated and advised in meaningful ways.

___Strongly Disagree ___ Disagree **34% Neutral** **66% Agree** ___ Strongly Agree

Comments:
Agree - Through the several real estate roundtable meetings held.
Neutral - Opportunity was there but was not used.

17. Local, regional, and state agency staff had ample opportunities to participate in the process.

___Strongly Disagree ___ Disagree ___ Neutral **66% Agree** **34% Strongly Agree**

18. All key groups were invited to participate in the process by being on the Steering Committee and/or or encouraged to attend the workshops or meetings.

___Strongly Disagree ___ Disagree **17% Neutral** **50% Agree** **33% Strongly Agree**

Comments: Neutral – I am not clear as to whether specific invitations were given out.

C. Outreach and Information

Goal: Provide a variety of opportunities for the public and stakeholders to learn about the plan.

Products: Two project newsletters, a project brochure and website, numerous press releases, executive summaries of Phase 1 and Phase 2 studies; a traveling display and an information session at the local mall, as well as public workshops and presentations to local officials.

19. The information presented at the meetings and workshops was clear and easy to understand.

___Strongly Disagree ___ Disagree ___ Neutral **83% Agree** **17% Strongly Agree**

20. The public information about the project was effective.

___Strongly Disagree **17% Disagree** **17% Neutral** **66% Agree** ___ Strongly Agree

Comments: Disagree – the public information was good, but I do not think the public influenced the project**.**

21. The newsletters were helpful and informative.

___Strongly Disagree ___ Disagree **17% Neutral** **66% Agree** **17% Strongly Agree**

Comments: Newsletters were excellent**.**

D. Planning Process

Goal: Develop a plan based on sound, effective methods that address the major issues at hand.

Products: Phase I study identified proposed regional land use and transportation network; Phase II study developed implementation tools and guidelines for local planners, FDOT, CRA's, and private developers.

22. The right amount of time was spent on each aspect of the planning process.

___Strongly Disagree ___ Disagree **17% Neutral** **83% Agree** ___ Strongly Agree

23. The process was logical and built on sound principles.

___Strongly Disagree ___ Disagree ___ Neutral **50% Agree** **50%Strongly Agree**

24. The process addressed all the major issues.

___Strongly Disagree **17% Disagree** ___ Neutral **50% Agree** **33% Strongly Agree**

Comments: The opportunity was missed to pick up on the regional decision-making issue as it relates to regional transportation and the potential for merging the Martin & St. Lucie MPO's in response to the Census 2000 urbanized area changes.

25. The analytical methods and tools used during the process were adequate and appropriate.

___Strongly Disagree ___ Disagree ___ Neutral **83% Agree** **17% Strongly Agree**

Additional Comments:

- The study was well done. The fact that it took nearly three years to complete was not optimal. We all learned a lot. The study process was sound and the recommendations can be implemented.
- An overall good job. I think the project lost momentum due to the length of time. However, it was valuable to support the other efforts underway.

Martin & St. Lucie County

Regional Land Use Study

ISSUE 3 A MULTI-AGENCY PROJECT FOR INTEGRATED LAND USE AND TRANSPORTATION PLANNING JUNE 2003

PLANNING FOR WALKABLE, TRANSIT FRIENDLY PLACES

CONGESTION ON US 1 IS A problem that will get worse. Several years ago, the Florida Department of Transportation recommended adding lanes and building flyovers on the roadway to address congestion. The community strongly opposed the idea.

So what is the solution? The Treasure Coast Regional Planning Council (TCRPC) and member jurisdictions explored the possibility of land development options for eastern Martin and St. Lucie counties that would not only reduce congestion on US 1 and other roads by shortening trips and encouraging non-auto travel but would also reduce regional sprawl, better protect the environment, and foster more livable communities.

TCRPC commissioned Phase I of the Martin and St. Lucie County Regional Land Use Study to explore land use options. The study was completed in the summer of 2002 and found that a Community Centers concept with compact development at various locations in eastern Martin and St. Lucie counties would best meet the objectives of localities.

With the endorsement of the Community Centers concept by the TCRPC, the next challenge was determining how to create these walkable centers along a corridor that is already developed. The first step was creating a master plan for the Village Green area of Port St. Lucie (highlighted below) to illustrate

Continued on page 6

Village Green Master Plan - *The before figure (above left) shows a study within one of the Community Centers as it exists and the after figure (above right) shows the redeveloped site. Areas in green on the Master Plan are parks and recreational areas, dark brown represents buildings, orange represents parking garages and yellow represents parking lots. With a mix of land uses in close proximity, a grid street pattern and a focus on a bus stop on US 1, the Master Plan encourages people to walk, bike and take transit, helping to ease congestion on US 1.*

Moving from Plan to Reality

Phase I of the Martin and St. Lucie County Regional Land Use Study found that the creation of transit-friendly, walkable Community Centers in eastern Martin and St. Lucie counties would provide a number of benefits, such as reducing fast paced development to the west and the cost of serving that development, easing development pressures on environmentally sensitive lands, fostering quality communities, easing congestion by shortening trips, and encouraging non-auto travel.

The map on page 7 shows the recommended locations for Community Centers. Transforming development patterns in those areas presents a challenge, and localities need a better understanding of what they can do to foster the change. Phase II of the Regional Land Use Study focused on specific actions needed to move the Phase I plan into reality.

Community Centers Vision

"Establish geographically dispersed, compact, mixed-use community centers that provide for better jobs-housing balance through complementary land uses in closer proximity to residential areas."

The challenge for the Phase II effort was to better define Community Centers. The vision statement above provides direction, but more details were needed about the following:

• Scale and design characteristics that realistically reflect market demand and respect local character

Continued on page 7

COMMUNITY CENTER TOOLS

Phase I of the Martin and St. Lucie County Regional Land Use Study recommends the creation of walkable and transit friendly Community centers in eastern Martin and St. Lucie counties. Phase II of the study focuses on how localities in the US 1 corridor can help shape the development of the Community Centers. Several strategies, or tools, are recommended.

Master Plans

Master plans are proposed to specifically define how each Community Center will develop. To demonstrate the type of information and level of detail appropriate for master plans, the TCRPC prepared one for the Village Green area in Port St. Lucie, which is highlighted on the front page.

Community Center Design Guidelines

The design features in the Village Green Master Plan helped shape the *Community Center Design Guidelines*. The document provides illustrations and standards to help developers prepare and planners review site plans. The Guidelines cover a number of design features that include the following:

• BLOCKS, LOTS AND BUILDINGS
To make a place transit–friendly, building densities must be higher than what is typical in the US 1 corridor. To make a place walkable, blocks must be short, the front doors of buildings must be close to the street, and a variety of destinations must be close. This section provides direction on these features.

• STREETS AND FRONTAGES
Walkable and transit friendly streets must have sidewalks, bike lanes and a way for transit to avoid congestion. This section provides detailed information on how to design streets for walking, biking, and transit.

• OPEN SPACES
Rather than providing grassy open space around each building that people don't use, the Guidelines recommend how to provide public parks and plazas for the public to use and enjoy.

• PARKING
Even with more people walking, biking, and riding transit, many will drive and need a place to park. This section of the Guidelines recommends how many parking spaces are needed

A BLOCKS, LOTS & BUILDINGS

TREASURE COAST, FLORIDA

Blocks, lots, and buildings are the elements that make up community centers. A vital, walkable center must have residential, retail and civic uses organized in close proximity and connected through networks of streets, sidewalks, and paths. Block types must be carefully arranged to provide a seamless progression from center to edge. Density, building height and frontage, street type, and landscape treatment should all reflect this transition.

The core area should have the highest building densities and floor-area ratios (FAR). Buildings should provide a strong, continuous street edge. Because the core operates as the focal center of the district, formal civic space, as well as informal gathering places, should be plentiful, accessible, and attractive.

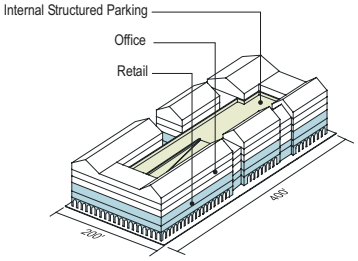
Blocks and buildings just outside the core should integrate more residential units into the mix of commercial and retail space. Blocks along the edge may be predominantly residential in use, with a diversity of housing types encouraged. Residential buildings should be set back further from the street and punctuated by alleys and street front porches.

CORE BLOCKS

The core exhibits the highest density and the greatest intensity of commercial uses. Building heights, frontages, and civic elements reflect the hierarchical prominence of the urban core. Internal structured parking helps maintain density. The block's vertical presence helps to form a sense of enclosure that enlivens the streetscape.

Mix of Uses - Retail, Services, Theatre, Restaurants, Office, Cinema, Grocery, Hotel, Residential, Civic, Institutional

Max Block Size - 7 acres, 400x400 ft
Minimum FAR - 2.5
Parking Ratio -3 spaces/ 1000 sf
Building Height - 4-10 stories

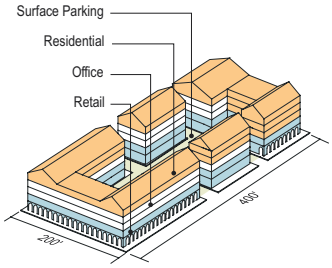


GENERAL BLOCKS

The general area supports the central core. Building heights, frontages, and civic elements should reflect gradual changes in scale and density. General blocks offer the same mixed-uses as core blocks, but at a lesser density. Internal surface parking allows blocks to maintain uninterrupted street frontages.

Mix of Uses - Office, Retail, Hotel Residential, Civic, Institutional

Max Block Size - 7 acres, 400x400 ft
Minimum FAR - 2.0
Parking Ratio - 3 spaces/ 1000 sf
Building Height - 3-6 stories

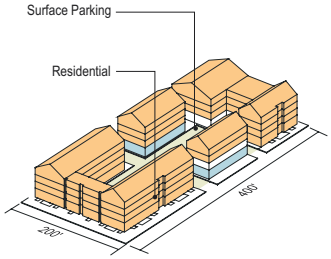


EDGE BLOCKS

The edges of urban developments should establish a more residential environment. Larger building setbacks, shorter heights, and fewer commercial uses establish a setting that contrasts with the mixed-use core. Building frontages should encourage a lively street culture among neighbors, visitors, and passersby.

Mix of Uses - Residential, Apartments, Condos, Townhouses, Ground Floor Office and Retail

Max Block Size - 7 acres, 400x400 ft
Minimum FAR - 1.5
Parking Ratio - 1.5 spaces/unit
Building Height - 2-4 stories



This is a page from the Design Guidelines that illustrates the type of design detail provided. This particular page addresses design features for street blocks in Community Centers.

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and how parking can be provided in a way that does not detract from walkable, transit friendly design.

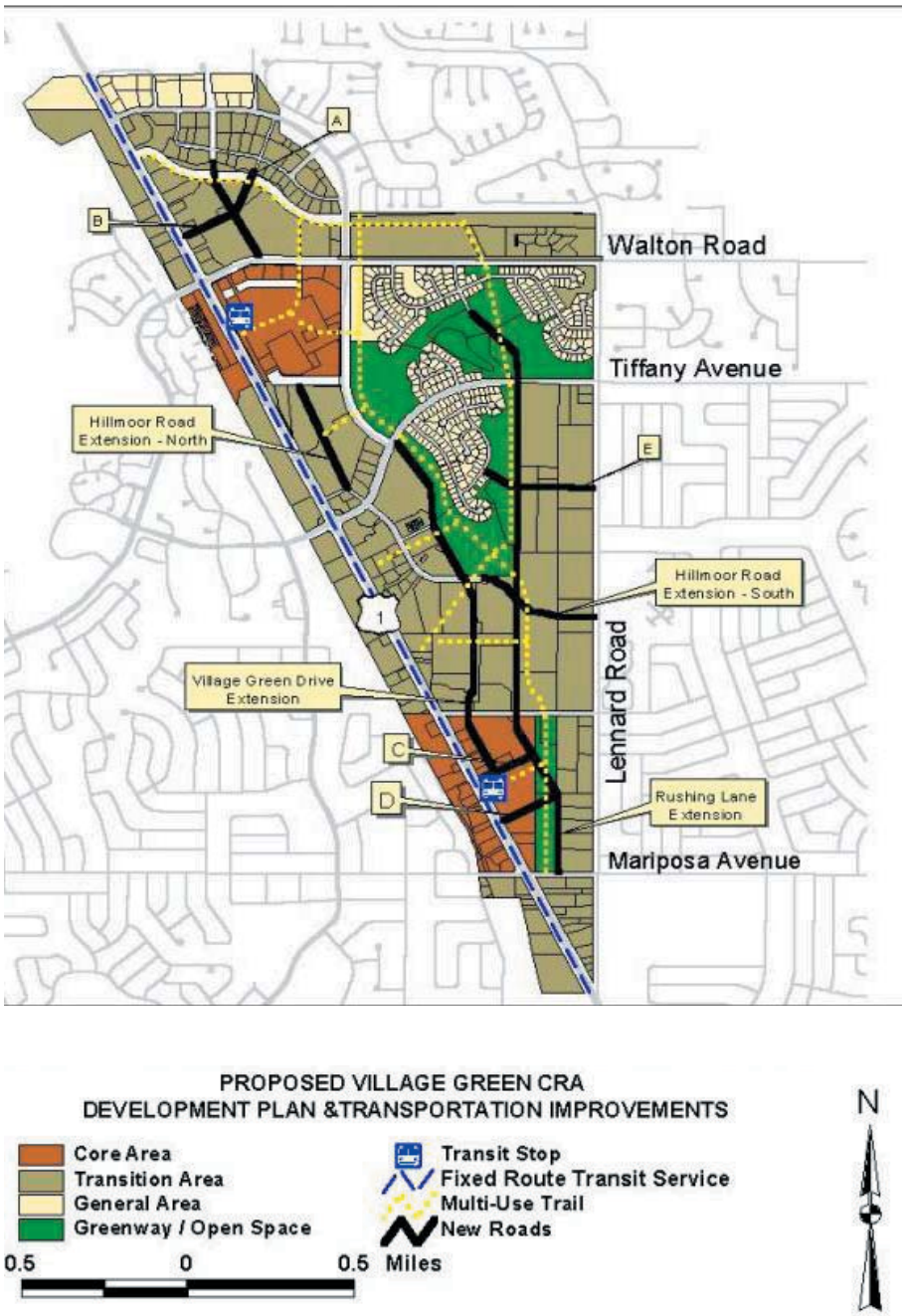
Model Comprehensive Plan Goals, Objectives and Policies

While the comprehensive plans of localities in the corridor generally support Community Centers, none have specific language to guide their development. The model goals, objectives, and policies prepared during Phase II provide Community Center-specific language that can be amended, with little modification into existing plans to guide the master planning process, the update of land development regulations, and the site plan review process.

Multimodal Transportation Districts

Concurrency management in Florida requires new development to pay for the added roads and services it requires. If traffic forecasts indicate a proposed development will congest a roadway, the developer must pay for adding capacity or the development will not be approved. The cost of adding lanes to a major roadway like US 1 is prohibitive for most developers and results in an improvement that few favor. Furthermore, adding lanes is often a short term solution that encourages more auto trips resulting in congestion on the wider road.

In recognition of the need for unique concurrency strategies in places like the US 1 corridor, the Florida Legislature allows localities to create Multimodal Transportation Districts (MTDs) where some auto congestion is accepted, but developers are responsible for funding those improvements that make the place more pedestrian, bicycle and transit friendly. Level of service standards for pedestrian and bike facilities and transit service are established in MTDs and the concurrency review identifies the improvements needed from the developer to meet the standards.



The transit, bicycle and pedestrian improvements shown in the Village Green Community Redevelopment Area (CRA) helped determine level of service standards. Developers in the CRA will have to fund their fair share of the total improvement costs before their development is approved.

MTDs are a perfect match for Community Centers because they provide a regulatory incentive local governments can be used to achieve the intended transit-friendly, walkable design. The steps to establish level of service standards for the Village Green Community Redevelopment Area in Port St. Lucie were taken during Phase II. The analysis recommends a standard of B (on a scale of A to F). The results serve as a prototype for establishing MTDs in the other Community Centers along the US 1 corridor.

LAND USE PLANS SUPPORT COMMUNITY CENTERS

As a first step for the Phase II study, the project team reviewed land use plans and development regulations for St. Lucie and Martin counties as well as the cities of Fort Pierce, Port St. Lucie, and Stuart. The team examined how the plans addressed the recommendations of the Phase 1 study as well as evaluating them across a matrix of 100 smart growth policies organized around ten major principles.

Basics Are in Place

The five local land use plans generally support smart growth principles and the Community Centers vision. In many cases, however, supportive policies have only recently been adopted, indicating commitments to developing implementation tools but not actual programs. Localities will need to ensure the policies are set in motion through the following:

- Regulatory tools (ordinances controlling the placement, development and design of buildings, streets, and activity centers)
- Incentives (funding programs and "fast-track" approval for affordable housing and rural area preservation)
- Infrastructure investments (local capital improvement programs and Metropolitan Planning Organization and state transportation programs)

Proactive Strategies Encouraged

The level to which local land development regulations support their associated plans varies among the localities. All provide for open space, some mixing of uses in or adjacent to residential areas, and a range of housing densities and types, and none appear to have major conflicts with Community Centers vision. However, some are much more proactive and forceful than others in their support of targeted, walkable, mixed–use development areas and affordable housing. The Stuart regulations include financing and regulatory tools that other localities could consider, such as the Payment in Lieu of Parking Program. Stuart and Port St. Lucie are using Community Redevelopment Areas to finance and regulate design for targeted areas. Stuart and Martin County also include graphics that help illustrate desired design standards, which help developers and local planners communicate more clearly.

One potential conflict in some localities is a requirement that local streets be physically separated from major streets to reduce through traffic in neighborhoods. This may present problems for creating connected street and sidewalk systems giving local travelers few options to congested arterials. The Martin County mobility standards and traffic calming program provide useful models for addressing this situation.

SMART GROWTH PRINCIPLES

1. Mix land uses
2. Take advantage of compact building design
3. Create a range of housing opportunities and choices
4. Create walkable communities
5. Foster distinctive, attractive communities with a strong sense of place
6. Preserve open space, farmland, natural beauty, and critical environmental areas
7. Strengthen and direct development towards existing communities
8. Provide a variety of transportation choices
9. Make development decisions predictable, fair and cost effective
10. Encourage community and stakeholder collaboration in development decisions

Source: Getting to Smart Growth, Smart Growth Network / ICMA, March 2002

SMART GROWTH IN NORTH AMERICA – LESSONS LEARNED

City revitalization and rural land preservation are succeeding in many places across America today, but we have yet to effectively apply smart growth principles to our fastest-growing sprawl problems: arterial shopping centers and suburban subdivisions. These are some of the key comments shared by planners in a nationwide survey conducted during the summer of 2002 for the Martin and St. Lucie County Regional Land Use Study.

Forty-eight agencies responded to the online survey, and follow up interviews were conducted with twelve respondents. Respondents hailed from twenty states and a Canadian province; represented local, regional, and state agencies; and served communities ranging from 4,200 to 8.6 million people.

Greenfield Growth Still Outpacing Infill Development

Growth among respondent communities is occurring primarily in suburban greenfields and rural areas (53%) compared to existing cities, towns, and suburban infill (41%).

The Challenge Ahead

The survey questionnaire was based on the ten principles in *Getting Smart Growth* published by the Smart Growth Network (www.smartgrowth.org) Interestingly, the key recommendations of the Martin and St. Lucie County

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Regional Land Use Study -- providing transportation choices and mixing land uses -- were not frequently applied by respondents. Study results and national research suggest that mixing uses and promoting travel choices will reduce congestion. The infrequent application of these principles must be due to the long term and extensive nature of these strategies but change has to start somewhere.

Downtown Success Stories

Many of the success stories from the survey are about city revitalization. Cities that have invested in mixed-use development and pedestrian-oriented streets are benefiting from changing demographics and market forces that are sparking a renewed interest in walkable, vibrant downtowns.

Suburbs - How to Turn the Tide?

Respondents wanted to redevelop and redesign suburbs but were daunted by our long history of development patterns based on automobile accessibility. In existing suburbs, public/private cooperation and infrastructure investments will be needed to recreate them as walkable centers. In new suburbs, location and accessibility are key; developments in far-flung places without good access to urban centers will add to regional congestion even if they are well designed and include mixed uses.

Rural Areas – Saying "No" to Development

Preserving rural areas is perhaps the hardest task of all because ultimately it requires saying "no." Some cities and towns are partnering with private land trusts to buy land or development rights while others take a hard line on land regulation and refuse to invest in water or transportation for rural areas. However, these actions take money, political will, and assets that require a lot of time for a region to develop.

Collaboration

Every success story involves collaboration whether between a city and local developers or among grass-roots coalitions with hundreds of local residents. Successful communities invest time, effort, and money to achieve consensus among politicians, staff, citizens, and business leaders. Education is key. Planners need to understand how developers make money in order to create incentives that work, and citizens need to understand the political process in order to affect it. Facilitators and leaders, recognized and unofficial, are critical players to create and sustain a shared vision.

Survey Says…

Smart growth investments, planning, and collaboration can pay off in profitable development that contributes to a community's quality of life. We need to continue creating high quality cities while stepping up efforts on suburban infill and rural preservation. The make-or-break factor is commitment. The act of bringing together elected officials, citizen groups, agency staff, and business leaders to shape and support a clear vision is the key to sustainable smart growth.

SMART GROWTH STRATEGIES APPLIED BY AMERICAN COMMUNITIES

PRINCIPLE (IN ORDER OF FREQUENCY)	MOST FREQUENTLY CITED POLICY	LEAST FREQUENTLY CITED POLICY
1. Encourage community and stakeholder collaboration in development decisions	Community visioning	Public access to tax and lien information
2. Create walkable neighborhoods	Access for people with disabilities	Economic activities to stimulate pedestrian activity
3. Preserve open space, farmland, natural beauty and critical environmental areas	Greenway networks	Green infrastructure plans
4. Foster distinctive, attractive communities with a strong sense of place	Plant trees	Standards for neighborhood schools
5. Take advantage of compact building design	Regional plans for compact communities	State-level model codes
6. (Tied with 7) Provide a variety of transportation choices	Require sidewalks in new development	Reduce roadway Level of Service standards in areas served by transit
7. (tied with 6) Mix land uses	Innovative zoning	Zone by building type
8. Strengthen and direct development toward existing communities	Support community-based efforts to revitalize neighborhoods	Split-rate property taxes
9. Create a range of housing choices	Zoning and building codes allowing a variety of housing	Education on resource-efficient mortgages
10. Make development decisions fair, predictable and cost-effective	Graphic zoning illustrations	Consumer incentives for smart growth

Planning for Walkable, Transit–Friendly Places

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how the redevelopment could occur. The planning process began with an inventory of the site, followed by a charrette with the site's developer and Port St. Lucie city officials and ended with a detailed Master Plan. The effort took just two weeks to complete and resulted in a thoughtful and practical proposal for a walkable, transit–oriented center, as well as specifics on how the site could transform over time in a way that minimized impacts to existing tenants. The illustrations, which were prepared by the TCRPC, convey the look and feel of the redesigned Village Green area.

The figures to the right are street scenes from the Village Green Master Plan. The top illustration is of the transit station area on US 1 where buildings around the station are four to seven stories high to provide the densities needed for transit. The middle figure shows a canal in the middle of a street and illustrates how stormwater can be retained within a compact area. The bottom figure illustrates one of the many parks provided for on the site.

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- Building and paying for an integrated network of roadways, greenways and bicycle/pedestrian facilities that improve connectivity and accessibility within each Center

- Planning and regulating land development to ensure the Community Centers meet the vision.

Planning Tools to Create Community Centers

Phase II, completed in June 2003, focused on policies and planning tools, highlighted throughout this newsletter, that localities can use to develop the Community Centers.

The process began with a review of existing local land use plans and land development regulations to determine existing support for Community Centers. The review found emerging support with most plans advocating additional development of policies and tools.

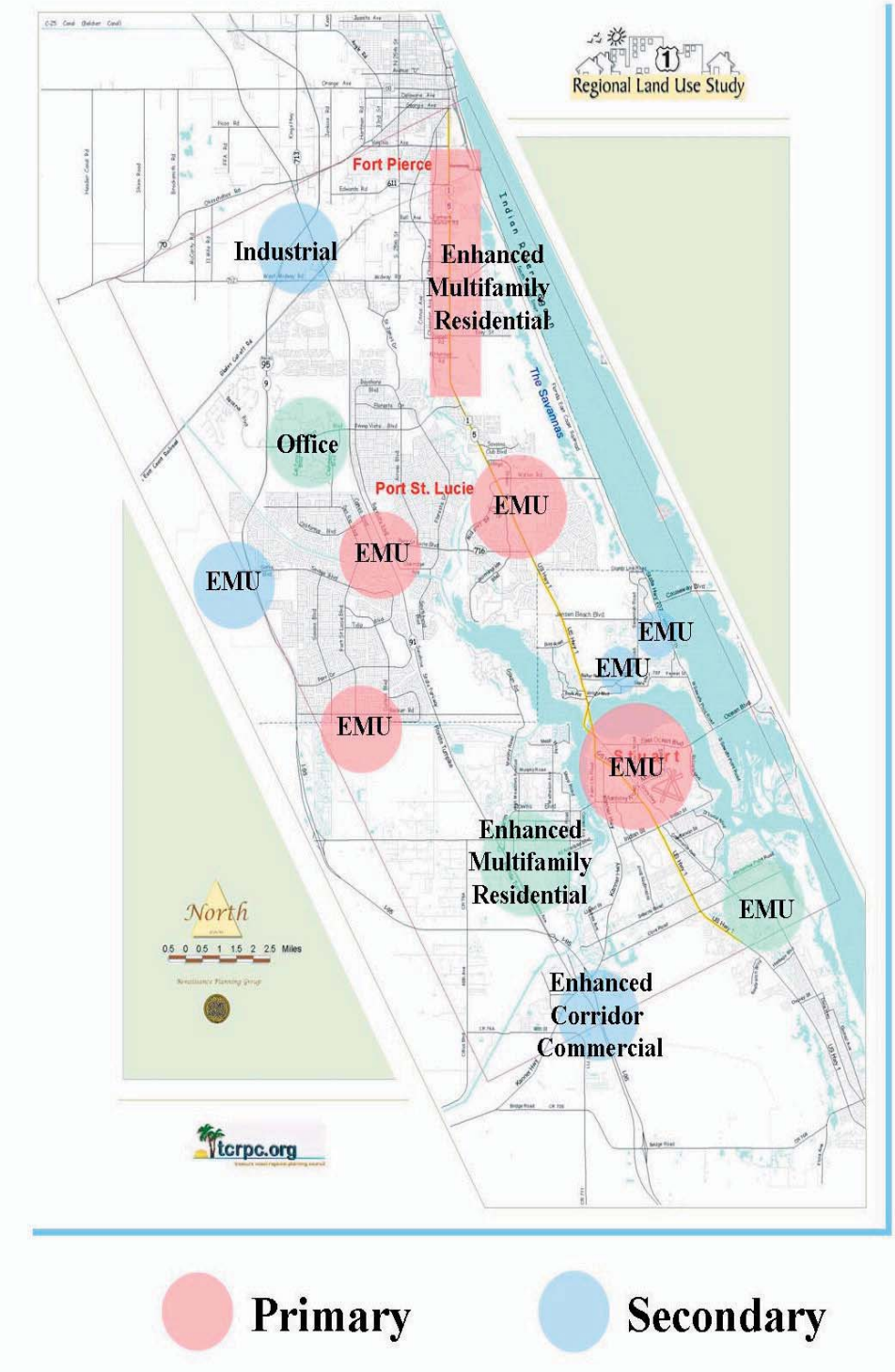
A national survey of planning agencies also revealed emerging support for Community Center concepts and provided ideas from leading-edge communities on curbing sprawl and revitalizing urban centers.

The remaining tasks focused on building a set of Community Center implementation tools that localities could use as guides to update their plans, regulations, and review processes. The Village Green Master Plan set expectations for the Community Center development pattern in Port St. Lucie and provides a template for how to plan the other proposed Community Centers.

One of the most innovative planning tools developed through Phase II was a proposed Multimodal Transportation District (MTD) for the Village Green Community Center. The MTD, recently enabled by Florida law, is an overlay district localities can establish that enables developers to meet transportation concurrency requirements by providing transit, bicycle, sidewalk, greenway and street improvements as well as pedestrian-friendly urban design.

Phase II also provided local planners with a model set of comprehensive plan goals, objectives and policies specifically tailored to enabling Community Centers. Community Center Design Guidelines provide specifications for key design features and a site plan review tool to evaluate development proposals.

This tool set from the Phase II study is intended as a resource to be modified to fit the unique plans and processes of each locality. Next steps could include master plans for each of the Community Centers and accompanying zoning and land development regulations tailored to each locality.



STUDY SPONSORS AND PUBLIC INPUT

THE TREASURE COAST REGIONAL PLANNING Council coordinated the Regional Land Use Study, with agency funding and participation from Martin County, St. Lucie County, the City of Stuart, the Florida Department of Transportation and the Florida Department of Community Affairs. Other actively participating agencies included the City of Ft. Pierce, the City of Port St. Lucie, and the St. Lucie County Community Coach, a public transportation provider. Funding was also provided by a grant from the Federal Highway Administration Transportation & Community & System Preservation program.

Throughout both phases of this study, a steering committee of staff from local and state agencies met regularly to provide technical and policy guidance. Phase I was structured around an active public participation program that included workshops, newsletters, displays, presentations, a web site and a roundtable of real estate and development professionals. Phase II recommendations were reviewed with the real estate roundtable, elected and planning officials, and other active participants in Phase I.

FOR MORE INFORMATION PLEASE CONTACT TERRY HESS

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