Tarpon Springs Walkability Report

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INTRODUCTION AND PURPOSE

This report provides detail on existing walkability, livability and active living conditions in four Tarpon Springs neighborhoods: (1) public safety building area, (2) Marine and industrial areas north of the Anclote River, (3) historic downtown and Lemon Street, and (4) Sponge Docks. The report provides ideas, vision, tools and a potential model to build an economically strong Tarpon Springs. The vision will lead to practical, sustainable land development and growth. The report outlines steps that must be taken to assure that success. These principles and tools can be further generalized and adapted to other growth areas.

The purpose of this Walkability Report is to suggest practical policies, programs, street and waterfront treatments, landscaping, sidewalk features, driveways, street widths, trails, bikeways, ADA features and land use regulation guidelines to enact this vision. The report addresses a wide range of elements, issues and needs, including inter-agency coordination; flexible guidelines; broadly adopted, understood and accepted form based code; public safety; budgeting; health and environmental benefits; and economic vitality.

A vision statement will help guide walkable-scale development of an updated comprehensive plan and future development:

As Tarpon Springs grows into a diversified, vibrant, self-sufficient place, people will make walking and bicycling an active part of their lives. Walking and bicycling facilities will be measured by their quality, and increasing quantities of people using them. The existing street network will be enhanced with more green, well-connected streets and trails. Residents and visitors will have full access to waterfronts. People will want to live in and draw from both preservation and conservation efforts, and the unique character, culture, flavor of four distinct villages that include the public service building north of the Anclote River, Tarpon’s Lemon Street historic town center, and Sponge Docks. They will enjoy new development and increasing activities along the Pinellas Trail. Each of these village areas will be compact, and provide many diverse uses.
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Overview

Measures to increase walkability and smart growth will be measured and relate to Tarpon Springs’ sensitive placement on water, its surrounding land heritage, as well as its vulnerability to change. Tarpon’s vision is moving toward a quality, compact town form. Walkability and walking scale is the key and cornerstone to this focus.

Tarpon Springs has a strong edge and heads up on most Florida communities. The town’s history and charm have not been trampled to the extreme of other Florida towns. Elsewhere, once formerly funky and unique spots in the state are treading water, or submerged, and may not recover — not by storms of the natural kind, but the manmade variety — unbridled, consumptive, sprawl.

As change comes to Tarpon Springs, management of growth is best carried out with a strong, compelling, community-built, community-held vision. Many concerned citizens of Tarpon Springs recognize this building storm, and seek positive ways to embrace change. They know that when change occurs without a vision, many losses occur.

Process
It is largely for this reason that more than 50 residents, elected leaders, city and county staff participated in some part of four walking workshops in early November, 2005. Most people participated in several subsequent training sessions and discussions led by Dan Burden, a Senior Urban Designer with Glatting Jackson. Dan has evaluated over 2,000 communities in North America, and is able to compare and contrast Tarpon’s place and placemaking with others of similar size, scale, complexity and challenge.

Participants walked and talked about what is working, and what is not. They brainstormed and developed a short list of those elements they wished to see addressed in each of the four focus areas. This document summarizes all of these diverse activities and community insights.
Tarpon Springs’ future growth must continue to celebrate diversity, culture and history. Technology, talent and tolerance for new ideas will help establish a competitive edge for quality growth of jobs. Tarpon’s physical form must celebrate its river and other water assets. Each village area must be friendly for walking, bicycling or simply hanging out for people of all ages and abilities.

“The city,” he said, “has a soulful charm and unique history that cannot be manufactured or bought.”

..Dan Burden, as reported in the St Petersburg Times

The adopted plan or vision will work for all. This Walkability Report incorporates the latest and best proven methods of working with motorized vehicles, pedestrians, bicyclists and special needs street users, such as emergency responders. Tarpon Springs will continue to be known for its placemaking and lively happenings. It will also be known for its accessible waterfronts, narrow and friendly streets, boulevards and trails environment … one of the most quaint and best places to live, work, recreate and shop in North America.
Existing Conditions

Overall conditions

Although each of the four neighborhoods in this study area are unique, they share similar challenges and potential. Shared elements will be covered first.

Walking and bicycling in the study areas is a mixed experience, sometimes pleasant, sometimes not. The Pinellas Trail is one of the nation’s best and most celebrated multi-use facilities. Its length, connectivity to towns to the North and South, quality design, construction and maintenance help draw ever increasing numbers of diverse people to Tarpon Springs. Meanwhile, the trail is not well “watched over”, wayfinding is in its infancy, and the trail’s strength and potential are only partly tapped.

Land Development: Historic areas of town have great block form, building orientation and placement. People walking in many neighborhoods feel watched over. A number of buildings are community treasures, hard to find, but often well maintained and appreciated.

However, some areas of town, especially near the post office, Tarpon Springs Shopping Plaza and other recently built areas, have poor to exceptionally poor buildings and land form. Land is wasted, auto dependency is extreme, there is too little shade, and those people seen walking in these areas often have no choice except to walk. These areas of town will need significant infill and investments.

Sidewalks and walkways: Sidewalks in Tarpon vary in width, but are often narrow. Tight right-of-ways in adjacent streets compromise and restrict measures to widen sidewalks. For this reason, most reconstruction needs to focus on shade, quality of surfaces, attention to details at driveways and intersections, and modest additional sidewalk width where it can be found.

Streets, pavers and trees: Significant numbers of streets are being re-crafted. Walking and bicycling will benefit by lower speeds and more pleasing streets, especially as they become more green.
Bicycling, roadway, general: Tarpon is limited in the number of roadways that can be widened to accommodate on-street bicycling. Yet this must be done wherever it is practical, especially on wider sections of U.S. 19, Lemon Street, Alternate 19, and any other streets having sufficient right-of-way to accomplish this need. Otherwise, there are many pleasant quiet streets in town where bicycling can be pleasant and relaxed. Bicycling is under-developed. It’s potential as general transportation is high.

Trails and waterways: Waterways are spectacular and under invested for walking and trails. The potential to provide significant added connectivity, charm and place by incorporating public rights-of-way on all future water related properties is high. Adding public trails to waterside development adds significant value to properties.

Intersections and crossings: A number of intersections in town are primitive in their orientation to walking and bicycling. These intersections will often remain compact, due to historic buildings and limited rights-of-way. Some geometric improvements will be made, but the greatest potential is for vastly improved operations controls.

Wayfinding: Navigating (wayfinding) by foot is primitive in Tarpon Springs. Street signing is barely adequate. A number of features can be added, but especially useful will be a townwide program to create attractive, authentic signs, materials and other solutions to guide both citizens and visitors to the area.

Connectors, Links: There are many good street connections in historic (mostly pre-auto) portions of Tarpon Springs. These streets can be better identified (wayfinding) and completed for their walking and bicycling access. These opportunities will be pointed out in each section. However, a strong set of links will need to be developed or enhanced between the historic town center and Sponge Docks. Both the Pinellas Trail, and a winding route of roadways to the West of Alternate 19 will be featured.

Water connection: Today there are limited means of crossing the Anclote River (a single bridge). The bridge has potential for significant welcoming and enjoyment. Meanwhile there are a number of means for providing new river crossing points.

Gateways: Sense of arrival in Tarpon Springs is “hit and miss” with an emphasis on the “miss”. Signs welcoming people to town is counteracted by worn out streets, lack of green, and other ho-hum ness.
Public Safety Building, Tarpon Springs Mall Area. This area is characterized by auto-focused, sprawl style, well worn land holdings and open space. Visual quality is weak, distances between land uses are vast, but potential for quality development is strong and compelling.

Apartment style dwellings are worn and have unattractive edges.

Significant investments of the new public safety building serves as an engine for investment and change.

New green edges, a focus on making the utility corridor an attraction, rather than a distraction, will help this area.

The post office can also be a civic contributor, with some modifications and change.

The rebuilt shopping plaza is a modest help, but falls short of walkability in many ways, especially scale, lack of shade and other quality landscaping material and placemaking.

The utility corridor creates significant open space. Without development this space is unsightly, with appropriate development the area can become an attraction and value.

Some service roads are overly wide and unattractive. These roads can be converted to higher and better uses.
Anclote River, Industrial Area, North. This area is characterized by a rich mix of marine operations, captivating water views, vast open land, significant wetlands, intense brown fields, and numerous industrial operations. Potential for compact and well-placed mixed use and other land development is quite strong.

A generous amount of waterfront is used by a mix of successful as well as more marginal marine related employment. Land uses can be more methodically assembled to enhance marine operations and make way for attractive housing and mixed uses. Attention to watershed views on each side of the river will be important, while appropriate marine operations can be imbedded in key visual areas of attraction.

Current and potential marine crafts and interior industrial and warehouse operations should be protected and enhanced.

Wetland areas can be buffered and turned into quality trail or waters edge placements of new housing.
Historic Town Center, Lemon Street. Tarpon Springs has a large stock of historic streets, homes, churches and civic buildings. Many streets, parks and waterfronts are enhanced with green and occasional red brick streets.

Assembled land around Lemon Street is well connected to nearby civic and commercial properties, as well as the Pinellas Trail. New investments in private properties, the railroad depot and other options will help densify and enliven the area.

Sidewalks on Tarpon, Lemon and adjacent streets are narrow and many shade trees are missing. New roadway projects and a major reinvestment strategy will add some missing quality.
Sponge Docks and Connector. One of Florida’s most unique attractions is found on a pleasant two lane road paralleling the river. A large assortment of shops, restaurants, bakeries and other gathering places are also found here.

Unfortunately many large parking lots break these attractions with ragged, hot edges.

Some poorly placed buildings block important marine views.

For the most part sidewalks are adequate for basic walking. Added shade, street furniture and other amenities will help.

Fortunately, these changes can be assembled and repaired with combinations of public and private investments.
Recommendations

Overall recommendations

General Strategies for Improving Walkability

This Report calls for making walking and bicycling safer, more secure, convenient and enjoyable for all types of people — with a goal to increase walking by 300% by the year 2010 and 800% by 2015. By 2020 from 30% to 90% of all trips within each of the four neighborhood activity centers (villages) will be by foot or bicycle. There will be significant bicycling and some walking between most of these areas. There will be a diverse mix of people within view of anyone walking most hours of the day. Many street corners will have people gathering and chatting many hours a day.

This is readily achievable, since the entire street network will be remade with high levels of green, more compact and mixed land uses will prevail, new, appropriately sized and scaled hotels will be built and great new residential lofts work force housing and other building types will populate and dominate each area. Buildings will be mixed with housing, work, shopping and other services. Trails will have housing face into these properties for high levels of surveillance.

My observations and recommendations should be seen as validation and confirmation of the many progressive steps already outlined by Tarpon Springs’ leaders and staff. One surprise during the visit is the number of times key recommendations were already envisioned, but not fully known or understood by the public.

Here are the needed steps to achieve walkability:

1. Complete the sidewalk system. Today there are miles of incomplete sidewalks, narrow paths, and poorly maintained walking environments. Many of those sidewalks that do exist are at the back of curb, narrow, or have significant gaps and omissions. Driveways are often brutal and ugly, and parking lots are stark and distracting from walking experiences either adjacent to or across the street from these visual voids.

2. Green and Complete the Streets. Develop people friendly streets in and between each district. Re-bricking is a marvelous idea that should be expanded. Consider a community based funding program to significantly increase in this pride-producing activity. Greatly increase the number of trees planted, especially along key corridors, including the Pinellas Trail.
3. **Intensify and mix land uses.** Add significantly to urban densities (18-60 du/a) in select areas. Some districts will go from no residential stock to significant levels. Some housing needs to be upgraded, at least visually, early. Allow accessory units (granny flats) in most areas.

4. **Provide right-sized housing.** Encourage developers to build many new affordable units that are well dispersed, properly sized and scaled for neighborhoods and pocketbooks. Many people want and need to rent or own attractive and functional 500, 700, 900, 1100 and 1300 square foot units. These units can fit beautifully into all districts in the study area, and within many new projects.

5. **Wayfinding.** Provide clear route information to pedestrians by installing adequate signs along streets and trails and by publishing system maps. Signage will be specific. A route numbering and color coded system will be used, and signs will guide people to key locations such as “the town center, waterfront or entertainment district.”

6. **Focus on the Trail.** The Pinellas Trail has an incredible potential to be a new, highly energizing spine to urban development, not only as a transporter of people, but as a quality visual corridor for people to come to, gather, share, travel along and appreciate.

7. **Aesthetics.** All future-built public and private buildings, streets or ways and other built environments will be rated and adopted based on their ability to add to placemaking.

8. **Utilities and Furniture.** All utilities and street furniture are to be attractive, decorative and coordinated, or well screened from common view.

9. **Children First.** Many new and innovative play areas will be designed and built for children. These will appear in all four neighborhoods, and will be central and “discovery” placed features. Some or many will feature water.

10. **Seniors and special needs.** All people of all ages will feel welcome and supported in Tarpon Springs. Sidewalks and all areas will be barrier free.

11. **Connectivity.** Although general connectivity in Tarpon Springs is good, there are great opportunities to enliven and enhance walkability through more connections (sometimes paseos or walking only routes), ferries, water taxis, cable boats and other tools.
**Public Safety, Tarpon Springs Mall Area.** Location rich. This largely un-built-in infill opportunity has a community center, post office and commercial center. It has vast open lands and is an ideal location to establish a modern mixed use village. Participants and the workshop team identified these opportunities:

1. Hospitality lodging
2. Workforce housing (all sizes)
3. Wider sidewalks, bike lanes and trails
4. Improved connectivity, and improve existing connectivity (wayfinding)
5. Bus transfer station
6. Skate park and other facilities for kids
7. Community swimming pool
8. Focus new village on and around nursing home site
9. Linear park along transit line
10. Improved services for homeless
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Anclote River, Industrial Area, North. This area has maintained much of its historic charm and character along the waterfront. Special efforts are needed to clean up the area and find complementary land uses, with a strong central village that honors the waterfront and wetland areas. Participants and the workshop team identified these opportunities:

1. Hospitality lodging
2. Public services (fire station, police, public restrooms, plaza, waterfront)
3. Support and maintain maritime industries
4. Provide connectivity to sponge docks (cable ferry, water taxi, other)
5. Preserve waterfront and maintain wetlands
6. Provide floating docks for many uses, including trails
7. Trail on water
8. Preserve industrial areas and control/ direct residential infill.
9. Mixed use development, work force housing incentives, senior housing incentives.
10. Enhance night lighting (night sky sensitive)
11. Bus/ ferry intermodal terminal
12. Connectivity awareness and improvements
13. Places and activities for children
14. Address building heights, increase residential density; protect and enhance view sheds

Neighborhood General (NG)
The NG zone provides for a variety of residential building types and lot sizes, including detached one- and two-story single-family homes, duplexes, triplexes and four-plexes, side-yard housing, and bungalow courts, garden houses, cottages, as well as parks.
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Historic Town Center, Lemon Street. This area has a strong central foundation of many historic quality streets, homes and civic buildings. However, many areas need enhancements. Participants and the workshop team identified these opportunities:

1. Connect (using a “green street”) with Sponge Docks, and provide other connectivity enhancements
2. Provide centrally located transient lodging/services
3. Improved wayfinding and sitting places
4. Signage controls appropriate to historic charm of neighborhood and central town area
5. Workforce housing (incentives)
6. Wider sidewalks (5 foot minimum) bike paths and attractive bicycle racks
7. Curb extensions (bulbouts) at key intersections and appropriate midblock locations
8. Better marked trolley route and more comfortable waiting stations
9. Incentives for less impervious materials, especially in parking lots
10. More sitting places
11. Farmer’s market
12. Gondola rides on Spring Bayou
13. Embrace density, mixed use development
14. Preserve ground level retail
15. Fine tune roads to be more people friendly
16. Education between municipality and citizens

This zone is applied to areas intended for the most urban conditions within the City outside of the town center. Buildings of up to four stories may accommodate a mixture of land uses emphasizing ground-floor retail with offices and residential above.

Lodging, restaurant, entertainment, and civic uses are also encouraged. Street frontages throughout this zone are pedestrian-oriented, and defined by building facades at the back of the sidewalk, with all off-street parking provided in structures or located away from street
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**Sponge Docks and Connector.** This area is characterized by a small working waterfront, and great restaurants. The area is a rich mix of Greek heritage, culture, conversation and sensitive scale. Blighted by brutal parking lots and far too much hot sun. The area will benefit greatly through an infusion of walkability, shade and placemaking arts and sciences. New buildings with significant new mixed uses and density will help enliven the area all hours of the day. Participants and the workshop team identified these opportunities:

1. Build and maintain public access to water
2. Provide public restroom, preferably next to a small police precinct station
3. Enrich and protect the rich ethnic and marine heritage
4. Clean up parking lots in stages, first with appropriate landscaping, and then with infill buildings
5. Manage truck traffic
6. Create a new festival street evenings and weekends
7. Provide a strong gateway entry
8. Provide information kiosks and wayfinding
9. Lots more shade and green to enliven and cool the area
10. Better connectivity
11. Preserve and open vistas
12. Sign control and maintenance
13. Water taxis, meals and entertainment on boats
14. Preserve and enhance night view of water
15. Sponge museum at docks
16. Affordable work force housing
17. Wider sidewalks, attractive bike racks, benches and other street furniture
18. Better signs for trolley
19. Mapping and wayfinding
20. Connect docks and dock areas
21. Pedestrian bridge at docks to new area
22. Mixed use with first floor retail

**Recommendations**

![Image](image1.png)

Above Illustrations. Shopfront and Awning style: Façade is aligned close to the frontage line. Use 70% minimum glazing and awnings to overlap the full width of sidewalk. Gallery Style: Uses an attached cantilevered colonnade overlapping the sidewalk. Minimum colonnade width 12 feet. Either or both styles can be used along the sponge docks. Below: Use of terminating vistas and water features helps enliven the walking experience.
**Process.** Each of these district visions require intense public input to shape and nurture quality land development. Development of the future must be based on broad, sound, collaborative-built visions. Close coordination with the state and Pinellas County organizations and agencies will also be essential to full success. Community visions will be driven by a keen sense of aesthetics and placemaking. To achieve this, a series of strategies are already underway in Tarpon Springs.

This process must be methodical, all-engaging and holistic. However, it should not be too long in coming. Highly effective form based code can be evolved in periods as little as six months using highly interactive charrette style process to achieve high levels of consensus. A process known as “informed consent” is used to achieve these results. Other steps:

1. Pedestrian and Bicycle Master Plan
2. Vision plan for each of four neighborhoods
3. More training with a broader range of citizens and stakeholders will allow smoother, stronger, healthier and more fun project adoptions. Visioning and successful implementation are all about hard work by many people. Outlined here are critical components of effective data gathering and public process.
4. Regional speaker series. Provide a monthly speaker series with nationally recognized speakers and invite all agencies and people in region to attend.

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**Form-Based Code Differences**

Design-focused public participation process and existing conditions analysis

Highly interactive public process is used

New forms of planning look less at models and projections based on repeating mistakes of the past, and more on desired outcomes and what conditions prevent people from investing in compact village form, mixed use, connectivity, density and other healthy ways of building communities

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**Evolving Mission of Zoning**

Has been:
Prevent bad things from happening, incompatibility

Negative, pessimistic outlook on city making

Becoming:
Placemaking

Create and maintain municipal and neighborhood identity, preserve existing desired character

Positive, optimistic view of city making
Appendix

Part II: Guidelines and Toolbox
There is no "perfect" sidewalk dimension. Each street and sidewalk is unique. Meanwhile, it is important to know the minimal space needs of people. Too little space at certain times and it is unbearable to walk. Too much space and a person feels lost and alone. At different times of day we use the same walkway for different purposes, and need more or less space. There are times of day where a walkway feels "just right" or leaves us with a desire to come back when more people are present. Thus we design a sidewalk for its great moments, and allow it to feel a bit more open at other times.
Walkability is a combination of factors. Sidewalk width is important, but other factors are more critical. The Tarpon Springs Plan will measure the potential for walking. Level of Service (LOS) is over rated for all uses. It is almost meaningless when it comes to walking, where many other forces are at play. Level of Quality (LOQ) will be used to measure walkability. Exemplary level of quality may be required on a few principal streets, while Excellent, or even Good will be required on others. Note that when adequate sidewalk widths of 6-12 feet are provided, but high speeds and volumes dominate and poor “surveillance” (eyes on street) exist, then quality remains poor.

**Photo:** Center right. This “exemplary” sidewalk has very adequate widths, on-street parking buffers to the edge, low speed traffic, quality landscaping materials and high levels of “surveillance” due to the raised grade of townhouses.

**Photo:** Bottom right, a much narrower sidewalk and planter still works well for the volume of pedestrians. On-street parking and low speeds, and exceptional window transparency make this another exemplary walking condition.
Village Centers

Towns are made up of many gathering places. Each village or neighborhood center has at its heart an “absolute center” or linear core area, like the Pinellas Trail, or Sponge Docks to come to. These are the places needed to anchor urban experiences. A true public town center, trail or waterfront gives identity to the town and distinguishes it from all other places to live, work, shop and play. The center serves as a magnetic destination. The center is the place where people make plans to meet others. This is an area that is a landmark, a public place that they can find their way back to. This center is also a place to see others, and to be seen by others. Centers are always unique and special. They are places of the heart.

Social center
Urban area inventor, Michael Friedman, describes a center as ... a central place where the community can gather functioning as the heart of the region. It will introduce the “new blood” that will attract a new customer base to the area, while bolstering and support the retail that exists. ... it provides the community with a center for community life, a place to meet, come together and connect. ... it bolsters the community’s competitive position, by providing something that today’s customers are seeking ... a place that has the feeling of an exciting “town hub”. Tarpon Springs will improve its competitive position by having a number of great places for people to come to.

Lower four photos: Clockwise from top left, (1) Delft’s highly interactive town center following over 600 years of use (2) Friday Harbor’s central street gathers 30-40 groups a day in this one corner, (3) Santa Barbara’s State Street, and (4) Los Angeles Farmer’s Market, a newly built town center with dense housing, shopping and entertainment.
Street and Sidewalk Parts

Sidewalks and walking spaces have names and parts, just as buildings do. These images establish a working vocabulary for important parts to Tarpon Springs urban retail streets and pathways. Omitting “eyes on the street” or leaving out a terminating vista or vertical wall of street trees that guide the eye down a street leads to a place that feels incomplete or uncomfortable.

Street furniture should be coordinated, just as it is in a living room. Nothing appears on the street that is out of place. Comfort is achieved by having each of the right parts in the right place.

Not all elements of a particular street will come together in its initial design. For this reason a working group should remain active to evaluate and give input on what changes are needed. The best remade places in North America are tinkered with on a steady basis. I have gone back to Santa Barbara’s State Street and seen changes each year or two for two decades now. I expect to see more tinkering as this organic place continues to mature.
Trails Benefit Real Estate Investments
One resident of the new condominiums along the Waterfront Renaissance trail says, “The trail gives everyone sense of certainty that they will always have access to the waterfront”. Such certainty that people will always have access to the wonder and beauty of the waterfront can serve as a strong motivating factor for people to buy into a newly accessible, revitalizing area.

A study of real estate agents found that 70% of real estate agents use trails as a selling feature when selling homes near trails. 80.5% of them feel the trail would make it easier to sell. In Minnesota, 87% of homeowners believe trails either increased the value of their homes or had no impact. On Seattle’s most popular trail, homeowners with properties nearby sold for about 6% more than comparable properties elsewhere. Additionally, the U.S. National Parks Service notes that increases in property values range from 5 to 32% when adjacent to trails and greenways.

http://www.americantrails.org/resources/economics/MNecon.html

One resident of the new condominiums along the Waterfront Renaissance trail says, “The trail gives everyone sense of certainty that they will always have access to the waterfront.”
**Waterfront trails add value to properties**

America’s most sought after properties to own and places to spend time are located on or near waterfronts. As both historic and recent flood and storm activities are proving, it is safest and best for investors to set buildings, roadways and other investments back from waters edge. Trails can be designed to fill these spaces with high levels of durability, forgiveness, use and pride.

Waterfront trails are among the most popular places to enhance active living. People are naturally drawn to water for serious recreation and exercise, general leisure and a place to sit, walk, meditate and reflect.

**Trails add value.** There is also increasing evidence that trails buffer properties to water increases land value, security, safety, access, association and community pride.

**Vancouver, B.C.** No other North American city has made a more dynamic reinvestment in its waterfront than Vancouver, B.C. Industrial yards, port operations and rail yards have been converted into Vancouver’s most vibrant and sought after residences. Shown here is Coal Harbour, one of eight major neighborhoods built to the water.

**Celebration, Florida and Ion, (Charleston) South Carolina.** Developers have long known to settle in their most prestigious properties next to lakes and other water. Now, more than ever these properties are buffered and protected from the water by trails, not roads. Alley loading and other ingenious ways to provide property access frees up frontages with quiet, well used trails.
Surfaces and materials. Trail surfaces must be firm enough to handle a variety of wheeled and heel users. Although asphalt is the most common material, pavers and concrete are felt to be more attractive and durable in most settings. Note in the third photo from the top asphalt is held firmly in place through use of hard concrete (and sometimes granite) edges.

An added value of using concrete edge ribbons is a subliminal guide to the trail edge.

Pavers are sought after in prestige residential areas, and where storm activities are not expected to disrupt the base or top surfaces of these expensive materials.

Wood planks, and other board walk materials are sought in some commercial or natural areas. Simulated wood can be found in a number of colors and textures using long lasting plastic recycled products.

Crushed oyster shells, fly ash, pea gravel and a number of other materials are used to minimize water runoff, retain a rural look and feel, and, in some cases, reduce trails construction costs. One advantage of a non-paved surface is its ability to control the speed of wheeled vehicles.

Roller blades are only supported on surfaces of asphalt, concrete or tightly spaced pavers.

Bottom photo: A number of tamped earth, pea gravel or other surfaces are preferred where a more natural setting and speed control (of wheeled vehicles) is desired. The entire Town Lake Trail (Austin, Texas) is a colorized and firmly packed stone surface. This trail is exceptionally durable. Tens of thousands of people use the trail on a given day.
**Edge treatments.** One of the most important water’s edge design issues is how to manage wheeled versus non-wheeled (pedestrian) operations. The solution is “heels toward water, wheels distant from water” No other operation works.

Since all people want to walk next to water, people afoot have priority over those with wheels who may wish to travel faster. When wheeled trail users wish to spend time next to water, they become pedestrians.

**Rail or no Rail.** As a general rule, buffering people with wheels away from water’s edge drop offs is handled by horizontal distance, not rails. A 6-15 foot wide pedestrian space provides ample separation of wheels from water. However, when embankments are so steep as to create a psychological problem, or moderate risk of a fall and injury to pedestrians, then rails are provided (see middle photo). Rails or other positive restraint edging is also provided around curves when it is possible for a wheeled vehicle to go out of control.

Rails are either transparent or quite low to not interrupt view sheds.

*Scenes above, top to bottom, Stanley Park, Vancouver, B.C.; Boulder Canyon, Colorado; Chicago’s Lakefront trail*
Basic trail dimensions. Bicyclists heading in the same direction need 4 feet of space each (In-line skaters take up 6 feet). Since bicycling is a social activity a minimum of 8 feet is needed for two people to bicycle together in one direction of travel.

8 feet Acceptable sub-minimum. If volumes are light (one person coming the opposite way each 5 minutes) it is comfortable enough for a couple to move over. Some rural trails and many neighborhood connectors are acceptable at this width. Some grant providers need justification to go below a 10 foot standard. Citing drainage issues, the need to minimize environmental footprints in protected or sensitive areas and aesthetics help justify sub-minimum widths, but only when volumes are light.

10 Foot Standard Minimum. Since most trails have more use during peak days a minimum accepted width is 10 feet. This is the published minimum standard (AASHTO Guide to Bicycle Facilities).

12-14 Foot preferred Minimum. With an added mix of users (pedestrians, in line skaters, wheelchairs and more) it becomes reasonable to use 12-14 feet on many moderately used trails.

16-30 foot. Highly used urban trails (5-20,000 people per day) are designed for 16-30 feet wide.
Rising and falling tides and trails. Tides and trails can live in harmony at water’s edge. Use of gang planks and floating trails can accommodate a wide range of water trails. These added tools are effective where shorelines cannot be touched. Although such systems are no match for a tsunami, they are a reasonably affordable means of completing gaps for successful trail systems where real estate prices or moving a freeway blocks a trail and park completion. The system shown here includes: Upper right, floating pier in I’On, (Charleston) South Carolina, New Port, R.I, and (remaining photos) Portland’s freeway water front trail.
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Lighting
**Bicycle parking.** Several locations on each block of the Tarpon Springs downtown, Sponge Docks and other evolving areas should have bicycle parking. Parking should be attractive, convenient, in plain view of everyone (for security reasons) and fun. All transit stops should have parking. Major transit stops should provide lockers. Parking garages and all employment centers with 25 or more employees should have secure parking (lockers, garage space or interior building parking.)
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**Bike lanes.** Bike lanes are an important consideration for the Tarpon Springs street system. Bike lanes allow roadway lanes to keep narrow profiles, yet have improved sight lines, turning radii, buffers to parking, buffers to pedestrians and other benefits. Ten foot lanes can be applied next to bike lanes. These narrower travel lanes often reduce speeding. There are 22 benefits to bike lanes, and only two are for bicyclists (see www.walkable.org/library/paved shoulders). Bike lanes are recommended for many of the Town Center typical sections including:

1. Boulevards
2. Parkways
3. Avenue
4. Service roads

Each of the scenes on this page illustrate bike lanes that have been colorized with asphalt, stamped and textured asphalt, concrete or paint applied over concrete or asphalt. All approaches to colorization have proven durable and helpful in creating a narrow appearing street sections.
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Materials and colors for Operations. Both bike lanes and multi-use trails benefit from colorized materials. Trail and roadway users benefit by long lasting materials that guide and separate movements. Shown in the upper three photos, lane or trail crossings are highlighted to motorists in a right turn lane. These materials are applied to surfaces with an epoxy mix. Symbols and other pavement markings are inserted.

Bottom photos: Uses of colorized concrete, pavers or other durable materials helps separate wheels from heels on trails, and directionality of users with on road bike lanes.

The Tarpon Springs plan may incorporate these materials as roadways are designed for greater mixes of users and to alert motorists and trail/ lane users of conflict areas.
**Things to see. Focal points.** People need landmarks, views and rewards as they travel along trails. And in order to get to trails, communities need roadway alignments and terminating vistas to water’s edge. Careful planting or placement of materials guide the eyes to important vistas destinations helps.

Creative use of materials establishes a sense of openness, closure, protection or some variation or rhythm of place. A single waterfront can provide a great variety of psychological, emotional, social, romantic and private experiences.
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Sidewalk, parking, bike lanes, planter strip widths. Street typicals in newly built and reconstructed areas of town will honor the need for maximizing on-street parking, steady flow of traffic at low, uniform speeds, and ease of street crossings by pedestrians. These scenes depict added variations in design that may be preferred in some sections. Shown here, rather than using 8’ parking lanes, a more attractive functional and aesthetic parking pattern is use of a 6’+2’ parking bay. A six foot space is adequate for most cars, and use of valley gutters creates more buffer to moving cars and bike lanes, while adding more turning radius into driveways and intersections. This style of parking demarcation also gives a slight visual narrowing to streets, helping control speeds.

Angled parking is set at 60 degrees, not the diagrammed 45 degrees. Sixty degree parking adds more parking to each block, providing more support for residential, retail and service operations.

Curb extensions and tree wells are used to create further visual tightening of streets, adding greening effect and overall aesthetics and placemaking.

Narrower lanes are marked in roadways where speeds are controlled at 30 mph or below. Many Pacific Northwest and other western states are proving the benefit of narrower lanes to hold down on speeding and crashes. University Place, Washington has many excellent lane width safety
This Plan calls for making all streets and public corridors green and complete. As a general rule street trees will be planted on all streets and trails to create and declare access and welcome to public space. A series of corridor-like rooms will emerge through careful plantings. Even young trees planted in lines, with relatively close and consistent spacing, will begin to define the street space. Then as trees approach maturity they will make the street into a gracious outdoor room.

A combination of planter strips, medians and ample width tree wells can allow street trees to evolve quickly into an attraction of neatness that helps screen or mask the any early starkness as each place transitions from suburban to urban places.

Street trees should be planted to create a colonnade effect. A canopy of branches and leaves are needed to walk under. The street will effectively be subdivided into zones or rooms. Street trees are noted to have a traffic calming effect. Proper spacing of street trees gives motorist a sense of enclosure, protection (as opposed to being in a field), and allows a close-in means to gauge their speed. When trees are set back motorists do not sense their speed impacts as well.

Trees have to be planted closely for this effect. Spacing of 15-30 feet are recommended for the street system (Note: this is double to quadruple the number of trees suggested as a minimum in the plan). Trees lose their visual effectiveness and can fail at the job of spatial definition when they are planted more than 30 feet apart (Jacobs and Arnold).

Street design (typical sections) demands that adequate space and growing conditions be provided to nurture healthy trees.
Driveways and other crossings. Transitioning from suburban areas where pedestrians were largely omitted from roadway designs includes changing out driveways. Driveways were often intended to be high speed. Many driveways are overly wide, poorly lit, and pose multiple threats (up to six conflicts). Transitioning to a pedestrian friendly corridor requires the following measures:

**Driveway details:**

1. Keep entry and exit speeds low. General approach speeds should be 5-8 mph, or less.
2. Speed can be controlled by change in grade (gradual ramps increase speed potential).
3. It is best to use color, patterns and texture to highlight and make clear to motorists that they are intruding into the right-of-way of pedestrians, and that they have a legal duty to allow pedestrians to complete their movements.
4. In some cases tactile areas are used to define edges of safe zones (especially for blind pedestrians).
5. When necessary, sidewalks can be brought down to a lower driveway elevation in order to meet ADA needs. It is often best, however to use planter strips and have all of grade changes in that portion of the right of way occupied by planter strips.
6. Keep driveways well lit, with strong, well defined edges to accentuate crossing areas.
7. Pedestrian crossings of driveways are best when kept to the full width of the sidewalk. A five foot minimum width sidewalk is necessary on long driveways (more than 20 feet).
8. Right-in, right-out (or single direction) driveways are strongly preferred, especially on multiple lane roadways.
Parking: Off-street parking requires triple the land consumption and creates triple the heat gain, water run-off and other negative environmental impacts (as compared with on-street parking). The Tarpon Springs street system will tap into significant on-street parking for its multiple benefits of traffic calming, buffers to sidewalks and convenience for shopping.

There is ample space to accommodate on-street parking. Use of boulevard streets with frontage roads is an excellent example of how parking can be maximized even on streets that must carry high volumes.

Details Off street parking is best when inset. Curb extensions, monuments and trees emphasize quality park boundaries and placemaking:

1. Use curb extensions to keep to inset parking and to minimize pedestrian crossing widths.
2. Use tree wells for added plantings and to continue the rural and narrow street character.
3. Use 60 (or even 90 degree) angle parking.
4. If desired, use back-in angled parking. Back-in parking is considered superior to pull-in parking.
5. Parking requires either curbing or some positive restraint feature or material, such as bollards.
6. Rural swale section roadways are acceptable to parking designs, as long as positive restraints are created with bollards, fencing or some other material.
7. Parking and bike lanes can be used in combination as long as sufficient space is devoted to operations. In general bike lanes next to parallel parking are 7 feet wide, while parking bays are 6 feet.
8. Angled parking and bike lanes can work together, especially if angled parking is back-in only. Otherwise, an even greater buffer or separation from parking movements is required.
9. Valley gutters (2-3 feet) are preferred. Through effective use of valley gutters it is possible to keep parking stalls to an 6 foot width.