Walkability Audit

Rockland, Maine

October 29, 2012

Sponsored by

Friends of Midcoast Maine

&

The Walkable and Livable Communities Institute

In collaboration with the

Rockland Economic Development Advisory Committee (REDAC)

FRIENDS OF MIDCOAST MAINE

ROCKLAND MAINE

Walkable and Livable Communities Institute

On October 29, 2012, Friends of Midcoast Maine (FMM) hosted an afternoon and evening walkability workshop in Rockland, Maine, along the Camden Street commercial strip, north of downtown Rockland. The workshop was held in collaboration with the Rockland Economic Development Advisory Committee (REDAC), a committee of the City of Rockland, Maine. Dan Burden, Executive Director of the Walkable and Livable Communities Institute, was hired by Friends of Midcoast Maine to lead a walk-audit along the Camden Street commercial strip and assess opportunities for improvements to walkability.

The workshop was advertised as " ***Improving the walkability of the Rockland Strip….*** *share your ideas and help develop a vision for the commercial strip and surrounding areas on Camden Street (north of Maverick Street) in Rockland. Explore potential improvements to the commercial strip and re-envision the area to improve walkability, safety, traffic flow, community health, beauty and attractiveness and social interaction."* City staff, REDAC members and FMM staff took advantage of the local newspaper, the public access television, the City website, Facebook, posters and word of mouth to advertise the workshop in advance.

Approximately 15 people attended the workshop which was held from 3 p.m. until 7 p.m. during the windy prelude to Hurricane Sandy. This report summarizes:

- The existing conditions
- What we heard
- Recommendations for the community
- Appendices with technical information

A special thank you is given to all the participants who made this day a success as well as the following people who contributed organizational time and effort.

- Rockland Economic Development Advisory Committee
  - Joanne Billington, Chair
  - Warren Bodine
  - John Jeffers
  - Tina Plummer
  - George Terrien
  - Pinny Beebe Center
  - Lorain Francis, Rockland Main Street Program
  - Robin McIntosh, Pen Bay Chamber of Commerce
- James Smith, Rockland City Manager
- Larry Pritchett, Rockland City Council
- Kyle Swan, Rockland Planning Board

At the workshop

- Stacy Benjamin, Maine Collaborative Planning
- The Knox Center for donation of shuttle bus and driver

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Appreciation is also given to the members and donors to FMM including a generous grant from the Environmental Funders Network Quality of Place Initiative and in-kind support from the Walkable and Livable Communities Institute.

Rockland Maine Walkability Workshop and Audit of the Camden Street Strip

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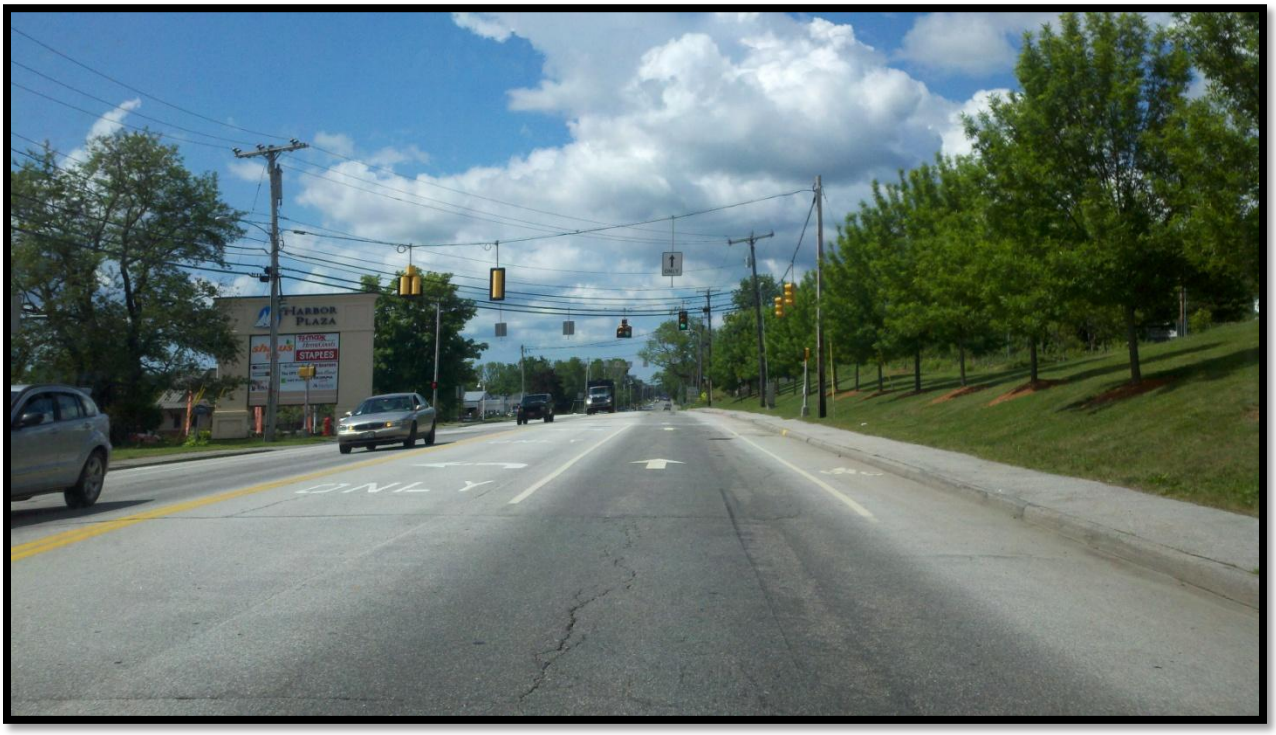
Rockland, Maine Commercial Strip
Existing Conditions



The Study Area

The City of Rockland is located along the midcoast of Maine. In 2010, the population was 7,297. The Rockland Economic Development Advisory Committee set as its first priority to focus on the Camden Street Commercial Strip, north of downtown. Working in collaboration with Friends of Midcoast Maine and its technical resources, a new vision is being created with the public to guide future growth and redevelopment in this area of the City.

The Camden Street Vision Project includes a six to twelve month community engagement process that began with the development of Heart & Soul community values. It includes technical assistance from Joe Minicozzi of Urban 3 LLC on the economics of strip versus the downtown development, on Walkability with Dan Burden of Walkable and Livable Communities Institute (WALC), on place-making and repairing the strip with Jane Lafleur of Friends of Midcoast Maine (FMM) and finally with designers and other technicians to provide expertise and inspiration to community members and leaders, REDAC members, and property owners to envision a new direction for the area so that it represents the values of the city.

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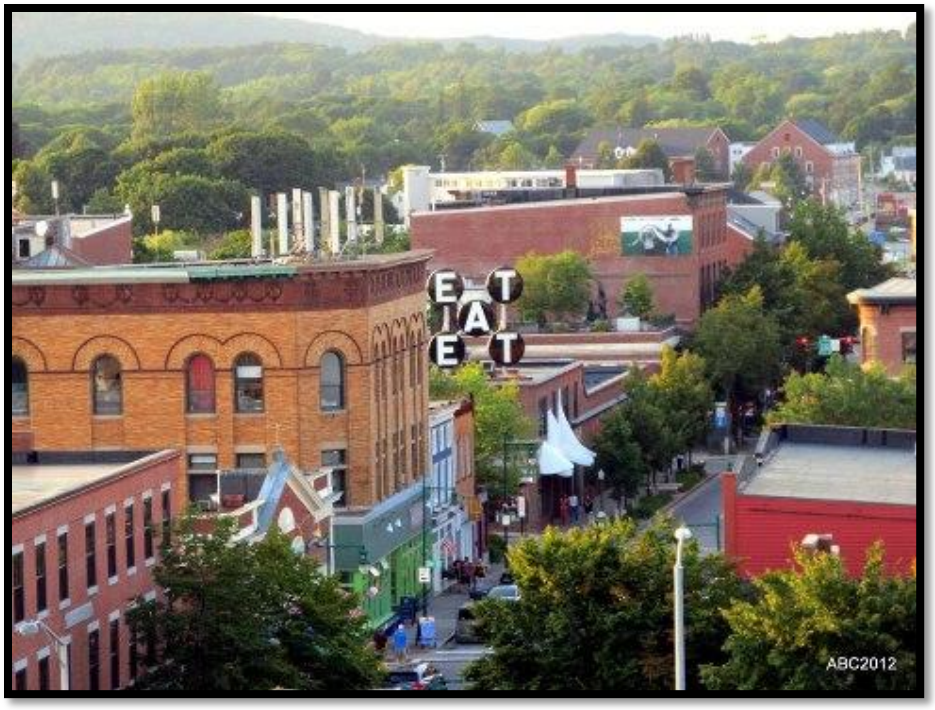
As background information, the 2001 Comprehensive Plan of Rockland states:

Rockland is approximately 12 square miles in land area and has the largest population of any municipality in Knox, Waldo, and Lincoln Counties and is also the County Seat for Knox County. The daytime population in Rockland is much higher than the resident population due to many residents of surrounding communities that come to Rockland to work, shop, utilize professional and public services, and recreate. The Comprehensive Plan has developed strategies in hopes of fostering conditions that will stabilize the gradual population decline seen over the past fifty years. In addition, strategies have been developed in order to promote a balance between residential and commercial growth so that Rockland continues to be a desirable place to live and work.

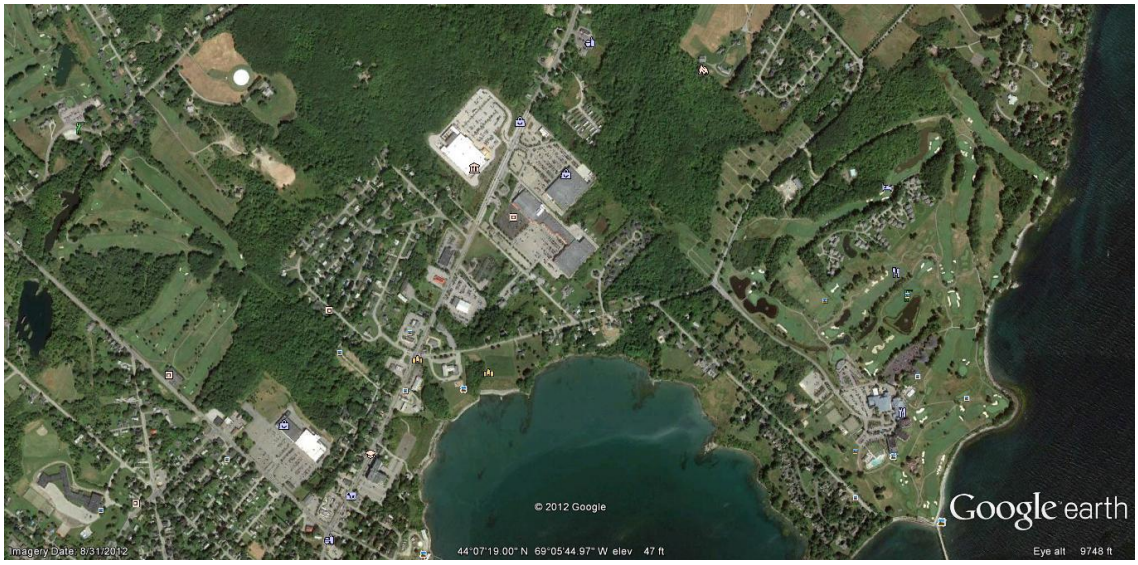
Historically, much of Rockland's economy has been tied to its harbor and lime. Over the years Rockland has received a number of nicknames based on the economy including,"The Lime City," "Gateway to the Penobscot," "The Lobster Capital of the World," and recently, the "Schooner Capital of Maine." Rockland is increasingly becoming a tourist destination; many visitors come to Rockland for the aesthetic beauty, local flavor, and the recreational activities. A variety of small and medium sized industries are located in the City of Rockland. The City continues to attract new industries to broaden its industrial base while retaining traditional industries such as ship and boat building and repair. The relatively broad base has made the city less vulnerable to economic fluctuations in any single industry or product line. The goals for Rockland's economy include promoting the tourism, strengthening the Downtown area, maintaining the role as service center, and exploring additional opportunities for industrial development. [1]

[1] City of Rockland, 2002 Comprehensive Plan, as amended 12/14/2011 and 3/14/2012. Page I and ii.



Downtown Rockland

Traffic is heavy along this study area portion of Route 1 in Rockland. According to the Comprehensive Plan, "In 1997, the AADT along Route 1 in Rockland ranged from a low of 10,920 vehicles per day, north of the intersection of Park and Main Streets, to a high of 21,160 on Camden Street north of Maverick Street.." From 1992 to 1997, the average annual daily traffic in the study area rose 24.3%. from 17,020 to 21,160. [2]



The Camden Street Study Area

[2] City of Rockland Comprehensive Plan, Page 8-4.

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The following summarizes the community input and the recommendations from Dan Burden of the Walkable and Livable Communities Institute collected on October 29, 2012 during an afternoon and evening walkability workshop along the Camden Street commercial strip, north of downtown Rockland, Maine. The workshop was held in collaboration with the Rockland Economic Development Advisory Committee (REDAC), a committee of the City of Rockland, Maine.

What We Heard from the Community

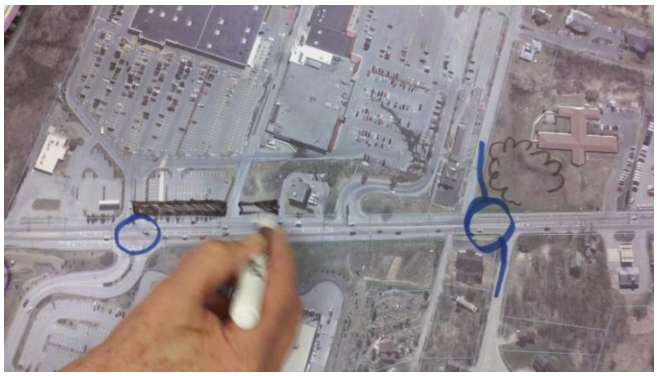
These notes summarize the two groups reporting out from small group work after the walk audit and presentations by Dan Burden.

Group #1 Recommendations/Suggestions

- Consider roundabouts at Maverick Street, Fales Street, Philbrick Street, Waldo Avenue, and the Home Depot/Walmart light--the intervals between them will slow vehicular traffic and allow prohibition of left hand turns exiting and entering Camden Street by permitting reversal of direction for anyone entering or exiting Camden Street across the opposite lane."
- Extend the harbor trail to the gulley and bring the trail to Camden Street.
- Add outdoor eating at the new Chinese Restaurant.
- Add a playground and benches at the Waldo Avenue lot by the church
- Between Fales and Waldo Streets, this would be a good place for a housing complex with a harbor view
- Vacant lots are waiting for things to happen
- Add sidewalks along Camden Street to a new roundabout at Waldo Street
- Bring sidewalk all the way down Camden Street
- Add a planted green strip to the northern City line
- Change the widths of the lanes to be narrower but accommodating more vehicles with round-abouts.
- Fuller automobile might be a good location for a farmers market in the lot and other things like that to bring people to the area; Reinforce the harbor trail idea.

- This is the entrance to the city; add “Shore village” sign with pillars and some way-finding signage
- At Wal-Mart property, add liner buildings along the Route 1 edge to better define this area and make it pedestrian friendly

- Add public spaces, roundabouts, and sidewalks on the water side of Route 1 with a wide green strip and small sidewalk on other side where houses are. Add crosswalks and sidewalks on both sides



Examples of Mini Traffic Circles

Examples of Mini Roundabouts

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- Possible bike trails through and to Pen Bay Acres. Make better connections to Camden Street from this neighborhood.
- Wal-Mart and Home Depot have potential to be moderate housing (at Wal-Mart) and up-scale housing and waterview villages (at Home Depot) with services and multi-uses for residents of the area. Housing should be close to Shaw's so people can have close by shopping
- Upscale water view housing and mixed use is possible in the Home Depot area
- Add an extension of Front Street
- Add a park-like area in front of nursing home to make another destination, community place or activity center
- Facilitate intensive, multi-storey development at the Maverick and Camden Street interchange, and in redevelopment of the single-storey shopping centers and he heights above Camden Street, as, for example, the multifamily structure just south of Pizza Hut.
- Narrow Camden Street to two lanes, with bike lanes, and with back-in diagonal parking and transition lanes wherever street-side development would be encouraged.
- Create esplanades to separate pedestrian and vehicular traffic, to provide for street trees, and to develop low impact storm water management infrastructure.
- Construct liner buildings along Glen Avenue frontage of Staples and Shaws parking lot.
- The open space across Glen Avenue from the Staples and Shaws parking lots offers recreational opportunity as a park and water feature, as well as low-impact management of storm water.

Group #2 Recommendations/Suggestions

- Extend bike path all along the waterfront; Make it a multi-modal path with benches and trees facing the water so people can watch people bike and walk
- Add sidewalks on both sides of Camden Street and extending down Waldo Ave to the Breakwater
- Extend bike path, a multi use path to Pen Bay Acres to give them better access to the area
- Make McDonalds area more pedestrian friendly and extend sidewalks up Maverick Street to Hannaford
- Allow property owners to redevelop in a more significant way to allow mixed use, and multi story to announce the beginning of the Rockland Downtown
- Add a roundabout at Maverick Street
- Enhance view from Route 1 to the water

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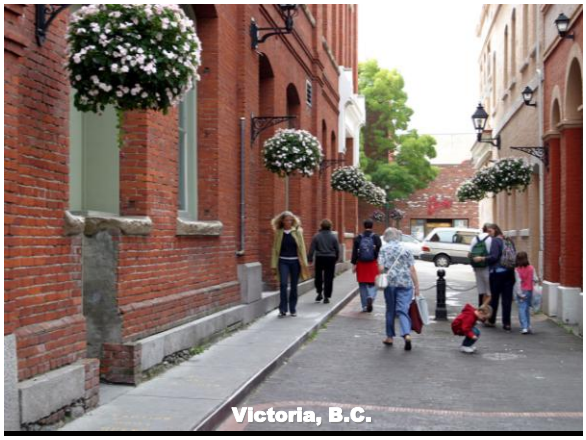
- Reduce lane widths on Route 1 to two ten foot travel lanes with five foot transition lane on each side, and sidewalks
- Add a roundabout at Waldo Street so it is calming traffic and announces nodes to make walking more prevalent and traffic flow more steady
- Add trees along Route 1
- Add more activity and buildings close to road that respects Rockland feel and creates its own identity that is like Rockland with gabled ends of buildings facing outward to the street
- Change from a strip to four nodes of intensity and activity, each different and interesting
- At Shaw's Street, allow development and possible public investment in a parking garage to do something that turns it into a more intense uses that provide enough people and businesses to support a village mode

- At the Glen Street alley behind Shaw's, allow mixed use and vertical residential, shops, offices and multi-story to:
    - encourage the owner of the real estate to redevelop buildings either as shells with multiple stories added on or removed and replaced to create a node of development
    - create intensity to support the business activity to justify the redevelopment
    - create another texture in the strip along to Maverick street to know you have arrived at a major city of the Midcoast as opposed to hemorrhaging into the downtown.



Example of a beautiful alley way

- Create more village-like uses at Home Depot land which offers great views of the water
- Add back in diagonal on-street parking on Route 1
- Allow re-development of Hannaford Plaza (although not the study area) to have mixed uses, greater density and liner buildings along Maverick Street to tie these areas together.

- Home Depot is a precious piece of land. Great views and intensive land use are possible. For example, 1/3 of an acre in Monterey is home to a 6 screen indoor movie theater, a large shoe store, a coffee house, deli, tarot card reading and 32 units of housing above this. It fits in tastefully.

View from Home Depot Property

- Build on the economy that Rockland already attracts and extend it to this area.
- The strip of land north of Wal-Mart offers an opportunity for new street connectivity. Create new street connectivity at Wal-Mart and throughout the strip.

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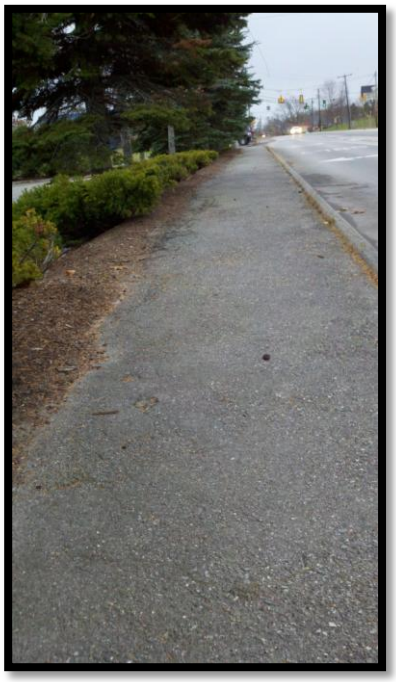
Walk Audit Recommendations from Dan Burden

- The width of US Route 1 will vary from town to town. In Rockland, there are 15 foot lanes and in some areas there are turn lanes. The minimum standard is 10 feet and in some areas 9 feet. You could drop the width and the capacity will stay the same. The capacity is not based on speed, it is based on the intersections.
- A sidewalk right next to the travel lane is uncomfortable for the pedestrian. A wide strip and a wider sidewalk would give the pedestrian more safety
- Consider granite curbing
- The utility poles are in the middle of sidewalk which is unsafe. CMP is concerned about trees on the wires because it is the cause of massive power outages. The poles may have been there when the road was widened.

- There is no sidewalk on the McDonalds side of the street but the driveways are massively wide on both sides of the street. One lane out and one lane in would give far less exposure to a pedestrian. One car exiting at a time would be preferable.



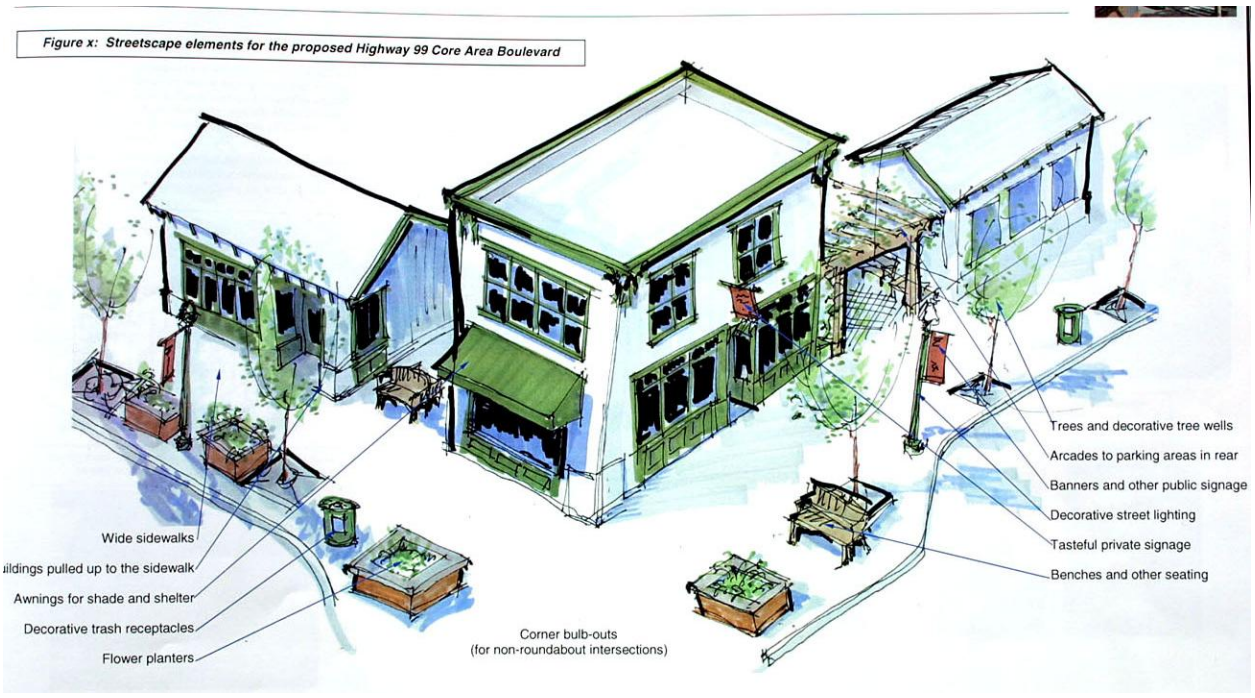
- At the Maverick Street intersection with Route 1, there are possibilities for redesign without changing the capacity of the intersection. Summer and holiday traffic backs up east and south bound, especially. A powerful tool is to replace the intersection with a *round-about*. A roundabout gives a beautiful attractive gateway and sets a different expectation to the motorist. They move 30% more traffic and you eliminate about 90% of personal injury crashes. There is no delay for the pedestrian. Bicyclists love them because you bring the motorists down to their speed. You can handle 23,000 cars through. Most of the year, a vehicle would not stop. The peak times it would slow.

Example of Nantucket, Massachusetts Roundabout

- At Maverick Street intersection, there is no legal way for a pedestrian to cross this intersection now.
- Helpful changes could be made here that will not negatively affect the capacity of Route 1. Also, Old County Road and Route 90 serve as bypasses to this area of town so that alleviates the through traffic whose destination is north of Rockland.

- How can a village be crafted here? Development might start in stages. A set of liner buildings of 20 feet in depth could be constructed along Route 1. There would be a service and utility space but with court yards and space for outdoor eating, etc. It sets the stage as a place for walking.

Example of liner buildings, Mashpee Commons, MA



Example of liner buildings

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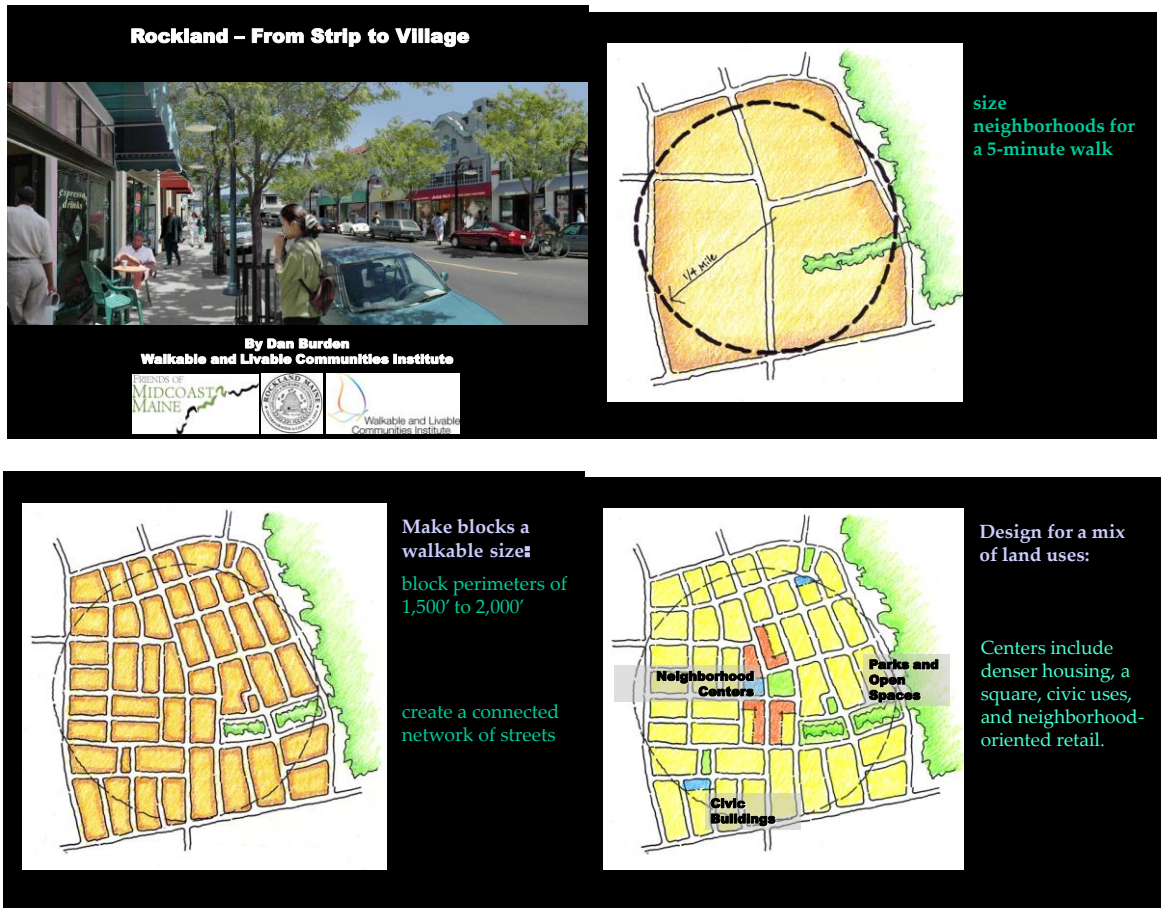
- Typically Wal-Mart pays off a building in 3.5 years. There will be restrictions on use so there is no competition for Wal-Mart. But sometimes towns buy the place to create what they want.
- The signals are not bad here but they are susceptible to hurricanes. Imagine if this was a roundabout, anchoring the other end of the gateway, and no signals are needed. A SINGLE LANE roundabout would anchor the entry to a real village, commercial, retail residential mixed use village. It does not need to be big but could provide anchors to developers and give many uses for homeowners and shop keepers. It could create a place. The views of the water are fabulous from up on the hill, further making this place a special place.

Lack of safe passage from parking lot to sidewalk.



Example of progression from a strip to a village

- The bank was interested in a second story but could not meet the parking requirements. Many US communities have written policies that are anti-village and anti-urban and we only get strip development and single boxes of single stories that do nothing for the economic health of our communities or the physical and social health of our people.
- Consider creating new parking requirements and even having no parking requirements. Load up the streets with on-street parking instead. Consider angled parking that works well with a roundabout at the ends. The perimeter of the village can have parking. A car parked on a street uses 1/3 of the land than off-street parking which also requires aisles and bays and turn radii. Streets can do that instead.
- Study the maps, but consider making connections to the water. Take advantage of the view sheds.

- Decide what is logical and reasonable to help define the character of the community and define a great future that is in keeping with the values of the community. Make a list of the barriers. Look seriously at the City codes. Find ways to slow down traffic without reducing capacity of the road, such as with traffic circles and roundabouts
- With a series of roundabouts the speeds go down, the capacity goes up and the time it takes to go through town goes down
- The apartment house will be turning into condos. This will bring people onto the street. They must have safe places to walk and cross Route 1.

- At the Harbor Plaza, the pedestrian cycle is only four seconds long until it is flashing. The motorists get to keep going, even with a pedestrian cycle. The timing needs to be changed so pedestrians are not discouraged from walking.

- The geometry is preventing safe walking. Put bike lanes next to the travel lane, and separate the vehicles from the sidewalk with paint.

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- The green space in front of the church could serve as a fabulous space for outdoor activity. It might have been a storm water run-off and retention area but can also be a fabulous place for outdoor exercise.

Examples of small public parks

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- The gully may have a conservation easement that is privately held. The area handles run-off from Pen Bay Acres. The stream runs to the harbor. Is this a good place for a trail? It could go to the water and from the residential areas. Consider that communities that develop trail networks also notice an increase in community revenues including sales tax, hotel room and meals taxes, gasoline sales, etc. Trails make all the adjacent land more valuable.
- Based on protecting open space, one acre in New York City next to Central Park is valued at $627 million in Central Park. Understand the value of this open space connection to the waterfront.

- The new restaurant is not facing the principle street. The street life is not promoted. If the City decides to go to a village form, the buildings should be closer to the street to add to the life of a village. The door can be further back but the building location must also add to the life of the community. The city, through its codes, is devaluing all buildings and all land around this with its zoning codes. Any developer that understands how to make money will not build a better building because they cannot get their full value out of their building. Start with a vision and then fix the town code.

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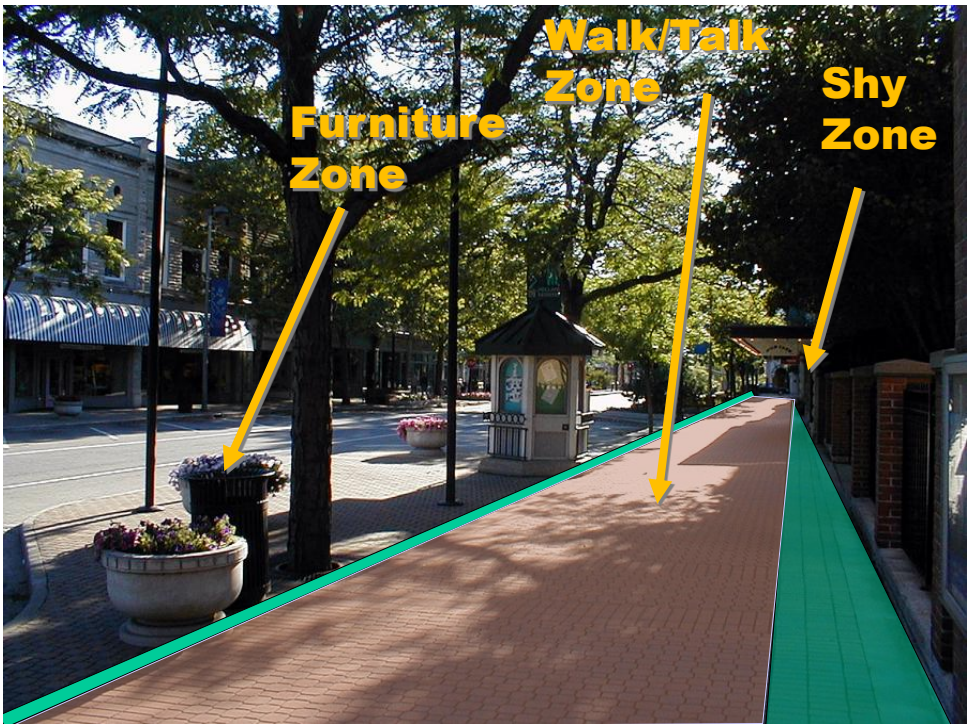
- This is a main entrance to a residential area and has no sidewalks.

- By the car wash, “this is the best view from any car wash in America”. Think about how we honor the most important places in our town and our community values of “access to the water”. Become a place that sizzles, not one that stutters. A car wash at one of the best view sheds does not make sense.

- The residential buildings across the street should be honored. By improving the land uses on the eastern side and calming traffic and noise, the value of these residential buildings and church will come back.

- Create a vision, work together, build on the Rockland identity and community values.
- Start with the street and the public spaces
- Create roundabouts and on street parking.
- Tap into an amazing future.

- Build walkable streets and sidewalks in this area of town. Consider creating spaces that enhance the place-making and pedestrian activity, not just on Route 1 but on a new grid of blocks and streets within developable areas.
- The first two feet from the edge of the building is called the *shy zone*. The area where all the furniture is placed is the *furniture zone*. Consider creating spaces like these along the Camden Street in order to improve the walkability of the area.



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- Consider adding amenities in the public and private spaces to increase transportation mode choices for citizens, shoppers, and visitors.

Examples of creative, attractive bike racks

- Consider adding public trash and recycling cans to make the place more livable.

Trash can ideas

- Alleys present an opportunity for a terminating vista. Look at every alley as a way to draw you down to a feature. In Victoria, British Columbia, the decking was changed and nice color with baskets and lamps were added to create “complexity”. These were not big or expensive changes but they add up and people want to stay longer or return to the area because they had a memorable time. These things put you on the map, more than you are already.

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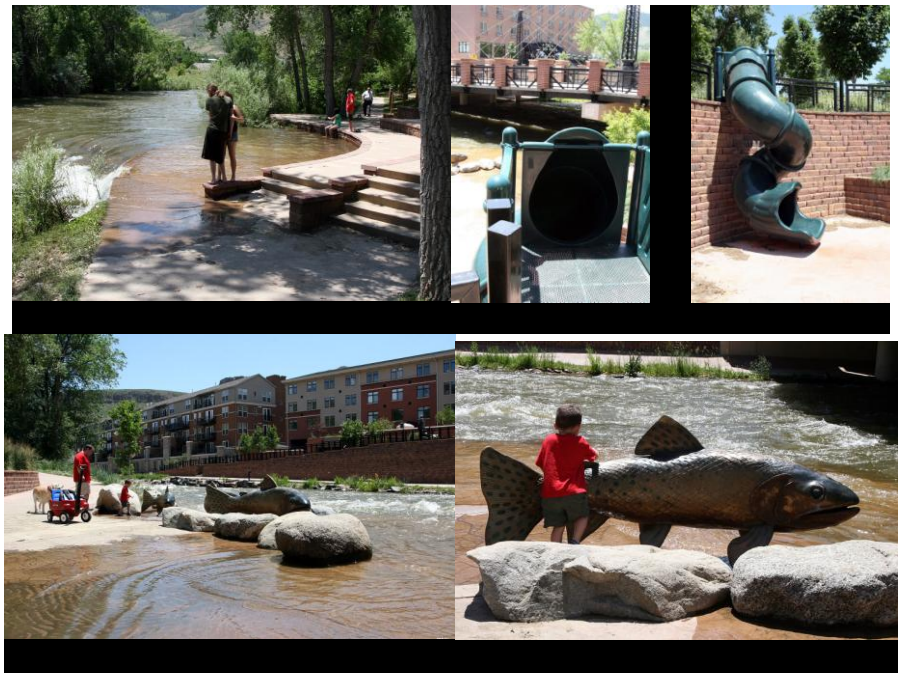
- Consider making the view to the water a Gateway to Rockland. This would respect the community held value about the access to the water and the harbor.

View of the water from the Camden Street Route 1 – Maverick Street Route 17 intersection



Examples of waterfront "placemaking"

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Principles for creating walkable communities

Dan Burden summarized the principles for creating walkable communities in his final slide presentation.

Goal 1: Build multi-modal communities
Prioritize development of multimodal communities that provide residents of all ages and abilities, and all economic levels with safe, reliable, comfortable and economical transportation choices.

Goal 2: Promote safety
Design, operate and manage the transportation system to reduce serious injuries, decrease the crime and violence, ensure mobility for all ages, abilities and socio-economic levels.

Goal 3: Design for Health
Design, operate and manage streetscapes and public spaces to promote active living and lessen exposure to air and noise pollution and water and soil contamination.

Goal 4: Promote Transportation Investment as Economic Development
Invest in transportation improvements-including operational improvements that support the economic health and competitiveness of the city's businesses and the safety and general welfare of its residents.

Goal 5: Integrate Transportation and Land Use
Cities and regions should coordinate transportation infrastructure with land use and development

Goal 6: Embrace streets as civic space
City streets will be regarded as important spaces for civic engagement and will be developed to promote health, economic vitality and well-being while reflecting a city's unique character.

Appendix 1 **Definitions**

Roundabouts

Roundabouts facilitate through-traffic and turning movements without requiring a signal control. Roundabouts allow vehicles to circulate around an island that is oft en used for landscaping, a gateway or for other decorative features, like artwork. The circulating roadway is typically wider than the approach roadways and features an additional 'apron' against the edges of the island; both of these features allow for fire trucks, ambulances and other large vehicles. Roundabouts increase intersection carrying capacity by up to 30 percent. As the only requirement for yielding the right-of-way is to traffic already in the circulating roadway, roundabouts also reduce delays for everyone.

Mini Circles

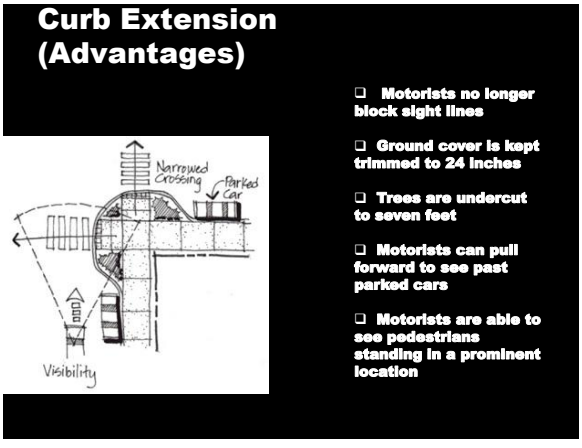
Mini Circles are one of the most popular and effective tools for calming traffic in neighborhoods. Seattle has 1,200 Mini Circles and this has led to a reduction in intersection crashes. They are the best neighborhood safety feature of any treatment type. These inexpensive features do not interrupt drainage. Mini Circles work outward from intersections on all three or all four legs of approaching traffic. Mini Circles bring speeds down to levels where motorists are more courteous to pedestrians, they allow all types of turns, including U-turns, which can assist with school area traffic management. A common engineering mistake is to put in four way stops around a mini circle. Mini Circles require yield signs instead.

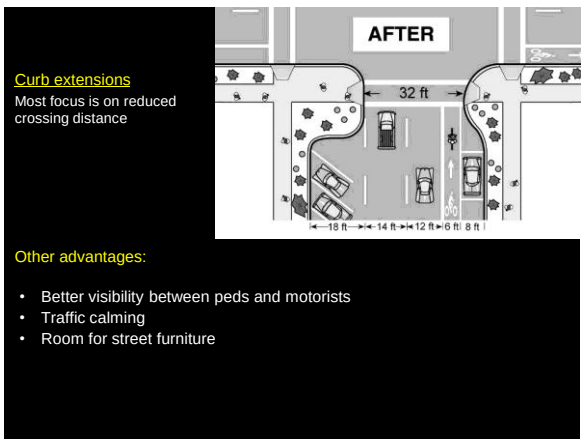
Road Diet

A road diet involves eliminating travel lanes to improve safety for pedestrians, bicyclists and motorists. Motorist crashes are typically reduced 12 to 30 percent, with some drops as high as 70 percent. High end speeds, especially, are reduced. While there can be more than four travel lanes before treatment, road diets are generally conversions of four-lane, undivided roads into three lanes—two through-lanes plus a center turn lane or median island. The fourth lane may be converted into bicycle lanes, sidewalks, planter strips for street trees, a bus stop, a separated multi -use trail, a wider outside lane or for on-street parking.

Curb Extensions

Curb extensions are a nearly universal tool for school areas. In transforming overly wide streets, curb extensions (also known as bulb outs, elephant ears and nibs) bring down right turning speeds, identify important crossings, and make it much easier for motorists to see children and for children to see motorists. When used in a series, curb extensions can signifcantly bring motorist speeds to acceptable levels. Curb extensions can be used at intersections, mid-block, inside of parking strips (tree wells) and other locations. Although many curb extensions are kept plain in appearance, at the entry to a neighborhood, they can be landscaped to serve as attractive gateways.





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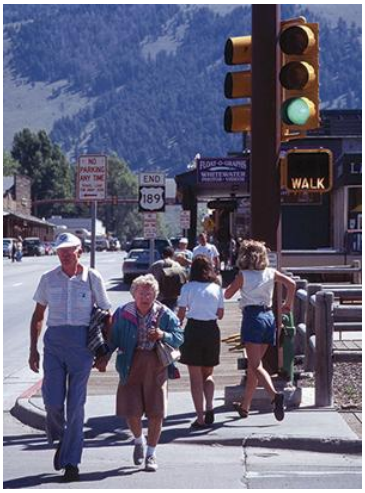
Bike Lanes

One of the most cost effective ways to reduce speed while improving overall vehicular flow and creating improved conditions for bicycling and walking, is the conversion of overly wide roads to bike lanes. Generally, travel lanes can be reduced to 10 feet. Narrower travel and storage lanes are proving to be slightly safer. Motorists appear to become more attentive when lanes are narrowed from 11-12 feet to 10 foot travel lanes. Bike lanes should be at least 5 feet wide and seamless. Thick striping and regular markings remind drivers to anticipate bicyclists. Bike lanes have an added benefit to pedestrians in that they provide a buffer to moving traffic.

Plazas, Parks and Paseos

Transforming a street, sidewalk, plaza, square, paseo, open lot, waterfront or other space into a community source of distinction, brings joy to the community. Good places make good experiences possible and they have consequences in our lives. People want to be in attractive, well designed and cared for public places. Investment in streets and other public spaces brings added value to all buildings and homes in an area. A compelling sense of place allows the time spent there to be rewarding and memorable. Converting alleys, sidewalks and streets into pocket parks, plazas and paseos creates lively places for people to gather, celebrate, eat and enjoy being together.

Signalized Intersections



Intersection control devices are critical if walking, bicycling and motoring are to work, and work together. People who cross at intersections, when they are signaled to do so, are most predictable. Drivers appreciate predictable and compliant behavior. When intersections become so complex and challenging that signals are added, there is oft en ample justification to go beyond conventional standards to address the needs of people walking and bicycling. Signal timing should be automated for inclusion of walking cycles. Signal timing should be adjusted so that signals recall to WALK during the cycle, minus the clearance interval.

Sidewalk Design

Sidewalks require high levels of design and care. It is within the protected spaces of a sidewalk where people move freely, but also spend time engaging others and enjoying their public space. Sidewalks work best when they are fully buffered from moving traffic. Color, texture, street furniture and other materials can distinguish functional areas of sidewalks. Using saw cuts rather than trowel cuts provides a better surface for wheelchairs and wheeled devices.
Sidewalks have three parts: the shy zone, furniture zone and the walk/talk zone. If driveways must interrupt, keep these to minimal widths (14 feet for one way and 26 feet for two way). Use contrasting colors and materials and keep sidewalks fully fl at across driveways.

On Street Parking

On-street and inset parking visually narrows streets and brings down traffic speeds, while providing the most sustainable and affordable parking. Speeds are brought down even more when tree wells are used to provide a canopy to the street. Since it already has its own turn radii into each spot and access, on-street parking only takes up one-third of the land of off – street parking. But the primary reason for maximizing parking on street is to help civilize streets that were overbuilt for speed. On-street parking belongs on center city streets, serving as a buffer between pedestrians and moving cars as a natural traffic calming tool.

Back in Parking

Back-in angle parking provides motorists with better vision of bicyclists, pedestrians, cars and trucks as they exit a parking space and enter moving traffic. Back-in angle parking also eliminates the risk that is present in parallel parking situations, of a motorist may open the car door into the path of a bicyclist. Back-in angle parking also removes the difficulty that drivers, particularly older drivers, have when backing into moving traffic.

The concept has many benefits over other parking types. Some of these benefits include increased parking capacity (10 to 12 feet of lateral curb per vehicle, versus 22 feet per vehicle for parallel parking), clear sight lines when pulling out, better maneuverability on snowy days, ease of loading and unloading cargo and helping children in and out of car seats, and protection for children because the open car door now directs young children back to a point of safety rather than out into the street.

Installation and conversion to back-in angle parking requires careful site planning to ensure that the car stops before encroaching into the pedestrian space. Engines should not idle as tailpipe emissions are now directed to the sidewalk, which is particularly undesirable near a sidewalk café or other sensitive location. (See U.S. EPA listing of state and local communities with anti-idling laws at http://www.epa.gov/SmartwayLogistics/documents/420b06004.pdf). The change should be publicized prior to implementation, as people are more likely to accept a program that they understand. A learning curve should be expected, thus parking a city vehicle in one of the spaces each morning can help drivers understand the action.

Many communities install curb extensions to shorten pedestrian crossing distance as part of a back-in angle parking project. Typical dimensions are: 60-degree angle stalls about 10 feet wide (which works out to 11 feet of curb length), and 20 feet deep (measured perpendicular to the curb). As a general rule, back-in angle parking should be installed on side streets first. It should also be considered on non-arterial streets where speeding is a problem and increased parking is a need. Over time and with community acceptance, there may be reasons to expand the concept to major streets. Bonuses of back-in angle parking include potential calming of traffic speeds, especially around schools and in downtowns or other commercial areas. Its use on downhill grades should be studied carefully and it may have limited usefulness on single lane, one-way streets. (Source: www.walkinginfo.org)

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