

5: PEDESTRIAN PLAN

This chapter summarizes existing and future pedestrian needs in the City of Richland, and outlines strategies and a recommended Action Plan. The criteria in evaluating pedestrian needs and the strategies for addressing needs were identified through work with the City’s Technical Advisory Committee and Steering Committee.

Needs

A limited number of sidewalks are provided on the arterial and collector roadways (see Figure 3-2) in the City of Richland, resulting in a fair existing pedestrian network. On average, 37 percent of these higher functional class streets have sidewalks on one or both sides of the roadway. Another important consideration is the availability and convenience for crossing arterial roadways. This usually is provided by pedestrian traffic signals at major intersections or a marked crosswalk at other intersections. In many cases, the spacing between these marked and controlled crossings is designed more to facilitate safe and efficient vehicular traffic flow rather than accessibility by pedestrian travelers. This can create situations where pedestrians cross arterials at mid-block locations without any controls.

The most important existing pedestrian needs in the City of Richland are providing sidewalks on arterials and collectors and connectivity to key activity centers in the City. This includes the need for safe, well lighted arterials and collector streets with suitable provisions for on-street and crossing facilities to reduce the barriers to pedestrian travel. The off-street trail system along SR-240, I-182 and the Columbia River augments the roadway sidewalk facilities, primarily for recreational and longer walking and cycling trips. Connections between the trails and city streets should be emphasized to maximize the utility of the trail system.

Walkway needs in Richland must consider the three most prevalent trip types:

- Residential based trips – home to school, home to home, home to retail, home to park, home to transit, home to entertainment, and home to library.
- Service based trips – multi-stop retail trips, work to restaurant, work to services, work/shop to transit
- Recreational based trips – home to park, exercise trips, casual walking trips.

Residential trips need a set of interconnected sidewalks radiating out from homes to destinations within one-half to one mile. Beyond these distances, walking trips of this type become substantially less common (over 20 minutes). Service based trips require direct, conflict-free connectivity between uses (for example, a shopping mall with its central spine walkway that connects multiple destinations). Service based trips need a clear definition of connectivity. This requires mixed use developments to locate front doors which relate

directly to the public right-of-way and provide walking links between uses within one-half mile. Recreational walking trips have different needs. Off-street trails, well landscaped sidewalks and relationships to unique environment (creeks, trees, farmland) are important.

Because all of these needs are different, there is no one pedestrian solution. The most common need is to provide a safe and interconnected system that affords the opportunity to consider the walking mode of travel, especially for trips less than one mile in length.

Facilities

Sidewalks should be built to current design standards of the City of Richland and in compliance with the Americans with Disabilities Act (at least five feet of unobstructed sidewalk).¹ Wider sidewalks may be constructed in commercial districts or on arterials streets. Currently, many sidewalks within the City do not meet ADA standards. Additional pedestrian facilities may include accessways, pedestrian districts and pedestrian plazas.

- Accessway – A walkway that provides pedestrian and/or bicycle passage either between streets or from a street to a building or other destinations such as a school, park or transit stop.
- Pedestrian District – A plan designation or zoning classification that establishes a safe and convenient pedestrian environment in an area planned for a mix of uses likely to support a relatively high level of pedestrian activity.
- Pedestrian Plaza – A small, semi-enclosed area usually adjoining a sidewalk or a transit stop which provides a place for pedestrians to sit, stand or rest.

These designations will be provided as the transportation plan is implemented. Any pedestrian districts, for example the downtown area (Jadwin Avenue near Lee Boulevard), may be identified in further studies, which address pedestrian issues. In addition, pedestrian districts should be reviewed in detail for pedestrian accessibility, facilities and/or street crossing treatments. Guidelines for marking crosswalks or other pedestrian enhancements for street crossings are found in the Institute of Transportation Engineer's Traffic Control Devices Handbook² based on work by Charles Zeeger.

Sidewalks should be sized to meet the specific needs of the adjacent land uses and needs. Guidance to assess capacity needs for pedestrians can be found in the Highway Capacity Manual.³ Typically, the base sidewalk sizing for local and neighborhood routes should be five feet (clear of obstruction). The critical element is the effective width of the walkway. Because of street utilities and amenities, a five-foot walkway can be reduced to two feet of effective walking area. This is the greatest capacity constraint to pedestrian flow. Therefore, landscape strips should be considered on all walkways to reduce the impacts of utilities and amenities – retaining the full sidewalk capacity.

As functional classification of roadways change, so should the design of the of pedestrian facilities. Collectors may need to consider minimum sidewalks widths of 6 to 8 feet and arterials should have sidewalk widths of 6 to 10 feet. Wider sidewalks may be necessary

¹ *Americans with Disabilities Act*, Uniform Building Code.

² *Traffic Control Devices Handbook*, Institute of Transportation Engineers, 2001, Chapter 13.

³ *Highway Capacity Manual*, Transportation Research Board, 2000; Chapter 18.

depending upon urban design needs and pedestrian flows (for example, adjacent to storefront retail or near transit stations). Curb-tight sidewalks are generally acceptable at the local and neighborhood route classification, however, with high vehicle volumes and on collector/arterial streets, landscape strips should be provided. Where curb-tight sidewalks are the only option, additional sidewalk width must be provided to accommodate the other street side features (light poles, mail boxes, etc).

Criteria

The city’s vision statement includes a set of goals and policies to guide transportation system development in Richland (see Chapter 2). Several policies pertain specifically to pedestrian needs:

Goal 6: The City will encourage the use of transportation modes that maximize energy conservation, circulation efficiency and economy.

- Policy 1 – The City will support increased use of multi-modal transportation. This includes, but is not limited to, high occupancy vehicle lanes, bicycle trails, park-and-ride facilities, carpools, vanpools, buses and mass transit.
 - Policy 2 – The City will coordinate planning efforts for non-motorized modes of travel with other jurisdictions and develop an integrated area-wide plan for non-motorized travel modes that ensures continuity of routes.
 - Policy 3 – The City will encourage sidewalks, improved shoulders, or off-street trails within new developments to accommodate internal circulation.
 - Policy 4 – The City will encourage new development to be pedestrian friendly and compatible with the public transportation system.
- New Policy 6 – The City will coordinate site development guidelines to encourage and enable use of alternative modes.

This goal and policies are the criteria that all pedestrian improvements in Richland should be compared against to determine if they conform to the intended vision of the City.

Strategies

Several strategies were developed by the Technical Advisory Committee for future pedestrian projects in Richland. These strategies are aimed at providing the City with priorities to direct its funds towards pedestrian projects that meet the goals and policies of the City.

Strategy 1 - “Connect Key Pedestrian Corridors to Schools, Parks, Recreational Uses, Transit Centers and Activity Centers”

This strategy provides sidewalks leading to activity centers in Richland, such as schools and parks. It provides added safety on routes to popular pedestrian destinations by separating pedestrian flows from auto travel lanes. These routes are also common places that children may walk, providing them safer routes. A quality pedestrian (and bicycle) system close to transit centers is an important aspect of attracting and retaining transit riders.

A key element of this strategy is to require all new development to define direct safe

pedestrian paths to parks, activity centers, schools and transit (in the future) within one mile of the development site. Direct will be defined as 1.25 times the straight line connection to these points from the development. Any gaps (off-site) will be defined (location and length).

Strategy 2 - “Fill in Gaps in the Network Where Some Sidewalks Exist”

This strategy provides sidewalks that fill in the gaps between existing sidewalks where a substantial portion of a pedestrian corridor already exists. This strategy maximizes the use of existing pedestrian facilities to create complete sections of an overall pedestrian network.

Strategy 3 - “Coordination of Land Use Approval Process to Provide Sidewalks and Links to Existing Sidewalks”

This strategy uses the land use approval process to ensure that sidewalks are provided adjacent to new development and that links from that new development to existing sidewalks are evaluated. If there are existing sidewalks in close proximity, either the developer or the City will be required to extend the sidewalk adjacent to the new development to meet the existing nearby sidewalk. The development shall use the pedestrian master plan as a basis for determining adjacent sidewalk placement. To effectively implement this strategy, close proximity shall be determined to be within 300 feet of the proposed development. In addition, if extension is not found to be roughly proportional to the development, the City shall add this to future years Capital Improvement Program candidate project list.

Strategy 4 - “Improved Crossings”

This strategy focuses on ensuring that safe street crossing locations are available, particularly along high traffic volume streets or locations where there is high pedestrian traffic (i.e., adjacent to schools, activity centers, etc.)

Strategy 5 - “Pedestrian Corridors that Connect to Major Recreational Uses”

This strategy provides a connection between the sidewalks network and major recreational facilities, such as the Columbia River trails, major parks, etc.

Strategy 6 - “Reconstruct All Existing Substandard Sidewalks to City of Richland Standards”

This strategy focuses on upgrading any substandard sidewalks to current city standards. Current standards are for five-foot sidewalks to meet ADA requirements⁴. Several sidewalks exist that do not meet the minimum five-foot requirement. Fronting property owners are responsible for sidewalk maintenance where pavement has fallen into disrepair, but are not responsible for pre-existing substandard width..

Table 5-1 provides an assessment of how each of the strategies meets the requirements of the goals and policies related to pedestrian facilities.

⁴ *Americans with Disabilities Act*, Uniform Building Code.

Table 5-1: Pedestrian Facility Strategies Comparisons

Strategy	Policies				
	6-1	6-2	6-3	6-4	6-6
1. Connect Key Pedestrian Corridors to Schools, Parks, Recreational Uses, Transit Centers and Activity Centers	□	●	○	□	●
2. Fill in Gaps in the Network Where Some Sidewalks Exist	□	□	○	■	●
3. Coordination of Land Use Approval Process to Provide Sidewalks and Links to Existing Sidewalks	●	●	□	■	■
4. Improved Crossings	●	□	○	□	□
5. Pedestrian Corridors that Connect to Major Recreational Uses	○	■	●	□	●
6. Reconstruct All Existing Substandard Sidewalks to City of Richland Standards	●	●	●	■	○

- Fully meets criteria
- Mostly meets criteria
- Partially meets criteria
- Does not meet criteria

Recommended Pedestrian Facility Plan

A list of likely actions to achieve fulfillment of these strategies was developed into a Pedestrian Master Plan. The Master Plan (Figure 5-1) is an overall plan and summarizes the ‘wish list’ of pedestrian related projects in Richland. From this Master Plan, a more specific shorter term, Action Plan was developed. The Master Plan elements considered pedestrian facilities identified in the adopted Regional Non-Motorized Transportation Plan⁵.

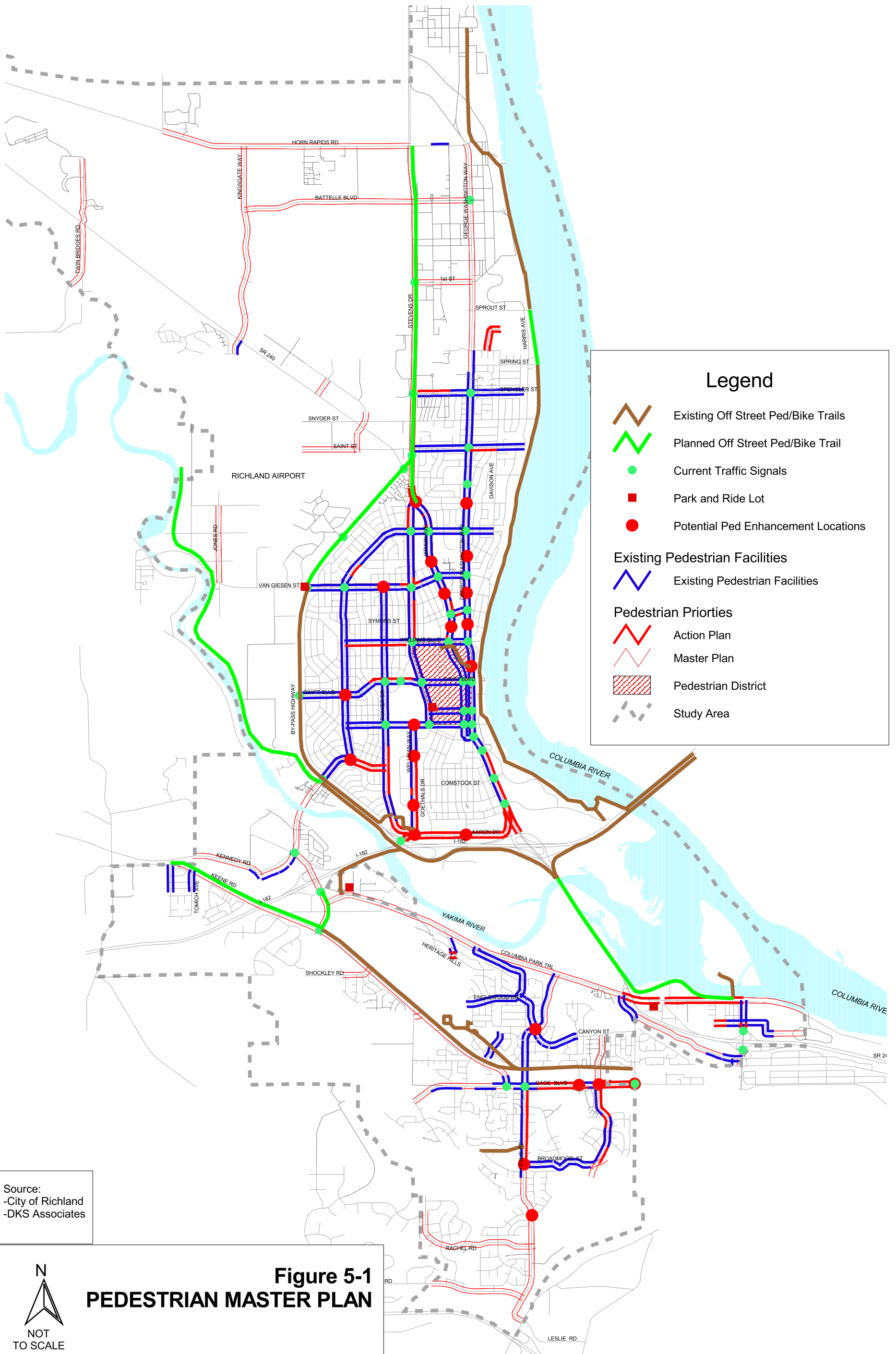
Recommended new facilities, both sidewalks, and off-street trails, are consistent with the RTP designations. Additional local facilities and crossing enhancements recommended in this plan extend beyond the regional scope of the RTP element.

The Action Plan consists of projects that the City should give priority to in funding. As development occurs, streets are rebuilt and other opportunities (such as grant programs) arise, projects on the Master Plan should be pursued as well.

It is preferable to provide pedestrian facilities on one side of the street if it means a longer section of the system could be covered (i.e. sidewalk on one side of the street for two miles is

⁵ Benton-Franklin Council of Governments, *Regional Non-Motorized Transportation Plan for Benton and Franklin Counties and Tri-Cities Urban Area*, Adopted November 2000.

preferable to sidewalk on both sides of the street for one mile). In the case of significant stretches where sidewalk is only provided on one side of the road, particular emphasis should be placed on developing safe crossing locations. Development will still be responsible for any frontage improvements, even if a pedestrian facility already exists opposite the proposed development. Sidewalks on both sides of all streets are the ultimate desire.



Legend

- Existing Off Street Ped/Bike Trails
- Planned Off Street Ped/Bike Trail
- Current Traffic Signals
- Park and Ride Lot
- Potential Ped Enhancement Locations

Existing Pedestrian Facilities

- Existing Pedestrian Facilities

Pedestrian Priorities

- Action Plan
- Master Plan
- Pedestrian District
- Study Area

Source:
-City of Richland
-DKS Associates

Figure 5-1
PEDESTRIAN MASTER PLAN

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Recommended Project List

Table 5-2 outlines potential pedestrian projects in Richland. The City, through its Capital Improvement Program (CIP), joint funding with other agencies (Benton County, WSDOT) and development approval would implement the projects. The following consideration should be made for each sidewalk installation:

- Every attempt should be made to meet City standards.
- All sidewalks should be a minimum of five feet wide.
- Landscape strips should be considered and are encouraged (see standard street cross-sections in Chapter 8 - Motor Vehicles).

Action Plan Projects

Table 5-2 summarize the Pedestrian Action Plan, which are shown on Figure 5-1.

Table 5-2: Recommended Pedestrian Projects

Street	Side	From	To
Aaron Drive	Both	Wellsian Way	George Washington Way
Bellerive Dr	East	Gage Blvd	Muriel St
Bellerive Dr	East	Broadmoor St	Amon Creek
Bellerive Dr	West	Country Club Road	Meadows
Duportatil Street	Both	Wright Ave	Thayer Dr
Gage Boulevard	Both	Leslie Road	City Limits
George Washington Way	East	Bradley Dr	I-182
Jadwin Avenue	Both	Catskill St	Coast St
Jadwin Avenue	East	Symons St	Torbett St
Jadwin Avenue	West	Williams Blvd	Stanley St
Leslie Road	East	Broadmoor St	Gage Blvd
Saint Street	South	George Washington Way	Davison Ave
Spengler Road	North	Stevens Dr	Hurd Ave
Stevens Drive	East	Williams Dr	Torbett St
Stevens Drive	East	Van Giesen St	Wilson St
Stevens Drive	West	McMurry St	Catskill St
Swift Boulevard	North	Sanford Ave	Thayer Dr
Symons Street	South	Jadwin Ave	George Washington Way
Thayer Drive	East	Arbor St	Iry St
Van Giesen Street	North	Mahan Ave	Goethals Dr
Wellsian Way	East	Aaron Dr	Elliot St
Wellsian Way	West	Wyman St	Wellhouse
Williams Boulevard	South	Wright Ave	Mahan Ave
Wright Avenue	East	Sanford Ave	Woodbury St

Arterial Crossing Enhancements

Pedestrian safety is a major issue. Pedestrian conflicts with motor vehicles are a major issue in pedestrian safety. These conflicts can be reduced by providing direct links to buildings

from public rights-of-way, considering neighborhood traffic management (see Chapter 8: Motor Vehicles), providing safe roadway crossing points and analyzing/reducing the level of pedestrian/vehicle conflicts in every land use application.

In setting priorities for the pedestrian action plan, school access was given a high priority to improve safety. However, beyond simply building more sidewalks, school safety involves education and planning. Many cities have followed guidelines provided by Federal Highway Administration and Institute of Transportation Engineers. Implementing plans of this nature has demonstrated accident reduction benefits. However, this type of work requires staffing and coordination by the School District as well as the City to be effective.

Several “pedestrian crossing evaluation” locations were identified during the preparation of the Pedestrian Master Plan and on the Pedestrian Action Plan. A screening evaluation was done for arterial streets within Richland to identify roadway segments that should be considered for enhanced pedestrian crossing treatments. The criterion used was based on roadway daily volumes, posted speeds, and proximity to pedestrian generators based on published guidelines⁶ in the Traffic Control Devices Handbook. These are locations (see Table 5-3) where it may be desirable to provide crossing enhancements that are safer than a standard crosswalk installation. These other enhancements may include a raised median islands, or a pedestrian activated signal, if warranted, for the sole purpose of allowing pedestrians to cross the roadway. The crossing type in the rightmost column of Table 5-3 indicates whether enhancements are optional (type B) or mandatory (type C) for the specified location. Locations with a type A indication note that standard crosswalk controls are sufficient. Further site specific study is recommended to determine the appropriate crossing design at each location with a type B or C rating.

⁶ *Traffic Control Devices Handbook*, Institute of Transportation Engineers, 2001; Chapter 13, Table 13-2.

Table 5-3: Potential Pedestrian Crossing Enhancement Locations






Intersection	2003 Daily Volume	Posted Speed	Number Travel Lanes	Crossing Type (1)
Aaron Drive and Jadwin Avenue	4,000	40	4	B
Gage Boulevard and Bellerive Drive	16,000	45	3	C
Gage Boulevard and Nicklaus Court	13,000	45	3	C
GWW and Howell Avenue	23,500	35	5	C
GWW and Hunt Avenue	23,500	35	5	C
GWW and Newcomer Avenue	21,000	35	5	C
GWW and Off street trail	23,500	35	5	C
GWW and Torbett Street	23,500	35	5	C
Jadwin Avenue and Catskill Street	1,500	35	2	A
Jadwin Avenue and Stanley Street	5,000	35	4	B
Jadwin Avenue and Torbett Street	4,000	35	4	B
Jadwin Avenue and Wilson Street	3,000	35	2	A
Leslie Road and Broadmore Street	11,000	40	3	B
Leslie Road and Canyon Avenue	9,500	40	3	B
Leslie Road and Center Boulevard	11,000	40	2	B
Van Giessen and Thayer Drive	12,500	30	4	B
Wellsian Way and Aaron Drive	10,500	35	5	B
Wellsian Way and Lee Boulevard	19,000	35	5	C
Wellsian Way and Wellhouse Loop north	6,500	35	5	B
Wellsian Way and Wellhouse Loop south	6,500	35	5	B
Wright Avenue and Duportail Street	7,000	25	2	A
Wright Avenue and Swift Boulevard	9,500	30	2	A

Notes:

(1) Crossing Type Categories: A = Candidate for marked crosswalk alone.; B = Marked crosswalk plus potential additional enhancements (e.g., raised median refuge, pedestrian traffic signal, etc.); C = Marked crosswalk and mandatory additional enhancements.

For Category B and C crossings, there is a range of possible improvements than can be applied as illustrated and described in Table 5-4 on the next page. Each crossing location should be reviewed to determine the appropriate combination of improvements. For example, curb extension are effective for reducing crosswalk lengths, and exposure to conflicting vehicles, but these are only reasonable where on-street parking is provided on both sides of the roadway. The curb extension ‘shadows’ the parked cars. Another example is the pedestrian count down timers, which can only be applied at existing or new traffic signal controlled crossings. These examples represent a tool box of solutions for pedestrian enhancements. Special emphasis should be given to the designated Pedestrian District within the Central Business District (see boundary in Figure 5-1).

Table 5-4: Potential Measures for Enhancing Pedestrian Crossings

Improvement	Description	Illustration	Cost Range
Marked Crosswalk	Thermoplastic markings at street corner.		\$500 to \$1,000 each crossing
New Corner Sidewalk Ramp	Construct ADA compliant wheelchair ramps consistent with city standards		\$1,000 to \$3,000 each corner
Median Refuge	Construct new raised median refuge area. Minimum width 6 feet, and minimum length of 30 feet. Curb can be mountable to allow emergency vehicles to cross, if required.		\$3,000 to \$10,000 depending on overall length and amenities.
Pedestrian Count Down Timer Signal	Install supplemental pedestrian signal controls to indicate the time remaining before crossing vehicles get 'green' signal indication.		\$500 each signal head
Curb Extensions	Construct curb extension on road segments with on-street parking. Reduces pedestrian crossing area, and exposure to vehicle conflicts.		\$5,000 to \$8,000 depending on design amenities and aesthetic treatments.

Mid-Block Pedestrian Signal and Crossing	Construct new pedestrian signal that is synchronized with major street traffic progression to reduce interruption of through traffic. Appropriate near high pedestrian generators.		\$100,000 to \$150,000
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Address Gaps in Pedestrian System

Prior to implementation of street standards, many of the neighborhoods developed in Richland did not construct sidewalks. These areas create gaps in the pedestrian walking system that become more important as land development continues. Current land developments build sidewalks on project frontages, but have little means or incentive to extend sidewalks beyond their property. Property owners without sidewalks are unlikely to independently build sidewalks that do not connect to anything. In fact, some property owners are resistant to sidewalk improvements due to cost (they do not want to pay) or changes to their frontage (they may have landscaping in the public right-of-way). As an incentive to fill some of these gaps concurrent with development activities, the City could consider an annual walkway fund that would supplement capital improvement-type projects. A fund of about \$40,000 to \$50,000 per year could build over a quarter mile of sidewalk to help fill gaps. If matching funds were provided, over double this amount may be possible. The fund could be used several ways:

- Matching other governmental transportation funds to build connecting sidewalks identified in the master plan.
- Matching funds with land use development projects to extend a developer’s sidewalks off-site to connect to non-contiguous sidewalks.
- Supplemental funds to roadway projects which build new arterial/collector sidewalks to create better linkages into neighborhoods.
- Matching funds with adjacent land owners that front the proposed sidewalk.
- Reimbursement agreements with developers

Parks and Trail Development

The City Parks and Recreation Department program is responsible for the majority of off-street trail opportunities. This department should coordinate their pedestrian plans with the Public Works Department to provide an integrated off-street walking system in Richland. Recent City park projects provide an opportunity to implement the off-street trails in Richland as an integrated element of the pedestrian action plan.

Complementing Land Use Actions

Land use actions enable significant improvements to the pedestrian system to occur. A change in land use from vacant or under utilized land creates two key impacts to the pedestrian system:

- Added vehicle trips that conflict with pedestrian flows
- Added pedestrian volume that requires safe facilities

Those impacts require mitigation to maintain a safe pedestrian system. Pedestrians walking in the traveled way of motor vehicles are exposed to potential conflicts that can be minimized or removed entirely with sidewalk installation. The cost of a fronting sidewalk to an individual single family home would be about \$1,000 to \$2,000 (representing less than one percent of the cost of a house). Over a typical 50-year life of a house, this would represent less than \$50 per year assuming that cost of money is 4% annually. This cost is substantially less than the potential risk associated with the cost of an injury accident or fatality without safe pedestrian facilities (injury accidents are likely to be \$10,000 to \$50,000 per occurrence and fatalities are \$500,000 to \$1,000,000). Sidewalks are essential for the safety of elderly persons, the disabled, transit patrons and children walking to school, a park or a neighbor's house. No area of the city can be isolated from the needs of these users (not residential, employment areas or shopping districts). Therefore, fronting improvements including sidewalks are required on every change in land use or roadway project.

For any developing or redeveloping property in Richland, the benefit of not providing sidewalks is only the cost savings to the developer – at the potential risk and future expense to the public. Therefore, sidewalks are required in Richland with all new development and roadway projects.

It is important that, as new development occurs, connections or accessways are provided to link the development to the existing pedestrian facilities in as direct manner as possible. As a guideline, the sidewalk distance from the building entrance to the public right-of-way should not exceed 1.25 times the straight line distance. If a development fronts a proposed sidewalk (as shown in the Pedestrian Master Plan), the developer shall be responsible for providing the walkway facility as part of any frontage improvement required for mitigation.

It is also very important that residential developments consider the routes that children will use to walk to school and provide safe and accessible sidewalks to accommodate these routes, particularly within one mile of a school site. Additionally, all commercial projects generating over 1,000 trip ends per day should provide a pedestrian connection plan showing how pedestrian access to the site links to adjacent uses, the public right-of-way and the site front door. Conflict free paths and traffic calming elements should be identified, as appropriate.