

## APPENDIX \_ - TRANSITIONING FROM AUTO-DEPENDENT TO WALKABLE COMMUNITIES

As our population ages and energy prices increase, interest in alternative modes of transportation is increasing. However, alternative modes of transportation do not work everywhere. Barriers to alternative modes of transportation do exist, and these barriers limit transportation choice and personal mobility. Zoning regulations and development decisions/approvals are often made without a clear understanding of the cumulative impacts on overall land use patterns, personal mobility and transportation options. The purpose of this document is to help individuals and communities make informed choices in regard to land use, transportation and mobility options.

Within our region, we have neighborhoods that are walkable and that support bicycling and transit use. We also have neighborhoods that are completely auto-dependent. While driving is possible, even convenient, within and between neighborhoods which are walkable and support bicycle and transit use, the reverse is not true. Auto-dependent neighborhoods limit transportation options and personal mobility.

The following definition is provided to help individuals and communities make informed transportation and land use decisions regarding nonfarm development. The definition is designed to be used as a *starting* point to enter into discussions regarding community character and choices in development patterns, personal mobility and transportation options. **The measurements are not based on current land use patterns. They are an attempt to define the combination of density, design and connectivity factors that result in a landscape where the average person will find a car the most convenient mode of travel.** The more of these characteristics your neighborhood or community has, the fewer transportation options exists and the more restricted individual personal mobility is within your neighborhood and community.

## Barriers to pedestrian and bicycle travel and transit use

Characteristics	Pedestrian Limitations	Bicycle Limitations	Transit Limitations
<b>Density</b> <sup>1</sup>	Fewer than 8 nonfarm housing units per acre		Fewer than 10 nonfarm housing units per acre. <sup>2</sup>
<b>Parcel Design</b>	Building footprint for a commercial, industrial, service establishment covers less than 70% of the developable land within the parcel. <sup>3</sup> Building is set well back from the road.		
<b>Street Design</b>	Block length is longer than .1 mile (528 ft)		
	Cul-de-sacs without pedestrian connections to other streets.	Cul-de-sacs, winding streets, pedestrian barriers and super blocks are prevalent.	
	Unpaved streets/roads		
	Uneven surfaces, such as cobblestones, bricks, rumble strips.		
		Driving lanes have little to no paved shoulder. Paved shoulders are less than 4 feet wide or no off road trail is present	
	Inadequately designed cement islands in roads with 4+ lanes of traffic		
<b>Facilities</b>	Safe, maintained year round pedestrian facilities (sidewalks, trails, benches) are rare to absent or poorly maintained		
		Bicycle facilities, including bike racks are rare to absent	
		Long term (all day or overnight) bike parking facilities such as lockers, racks in enclosed locked rooms, racks with security monitors, covered parking are rare to absent	
		Shower and changing facilities in office buildings/parks are rare to absent	Transit shelters and benches are rare to absent
		Streets are poorly maintained (i.e. contain potholes, broken glass, wet leaves, or other debris) Drainage grates and manhole covers are uneven or improperly designed for bicycles.	Bike racks on buses are rare to absent.
<b>Distance</b>	Distance to fixed route transit stop is more than ¼ mile		Distance to fixed route transit stop is more than ¼ mile
	Distance between housing units and existing neighborhood commercial	Distance between housing units and existing neighborhood commercial	Housing units and/or existing commercial uses are more than ¼ mile from a fixed route transit stop.

<sup>1</sup> ECWRPC's housing element promotes housing choice. Therefore, the density measure does not separate single family residences from multi-family, duplex or manufactured housing units, but instead measures overall net residential density to promote a greater housing choice and a mix of neighborhoods. Farm houses are excluded as they are considered part of an acreage intensive operation.

<sup>2</sup> Transit may be provided at lower densities. However, as densities decrease, ridership decreases, inefficiencies and costs rise and design becomes more critical.

<sup>3</sup> Many communities are located along existing bodies of water or have environmentally sensitive areas, which should be protected. As a result, only developable acres are considered in the density proportion of the formula. Farm and forest land are excluded from the formula as these are acreage intensive rural land uses.

<b>Characteristics</b>	<b>Pedestrian Limitations</b>	<b>Bicycle Limitations</b>	<b>Transit Limitations</b>
	uses is more than ¼ mile	uses is more than 1 mile	
	Distance between housing units and existing employment centers is more than 1/2 mile	Distance between housing units and existing employment centers is more than 1 mile	Existing employment centers are more than ½ mile from a fixed route transit stop
	Distance between housing units and a school is more than 1/2 mile	Distance between housing units and a school is more than 1 mile away	School is more than 1/4 mile from a fixed route transit stop
	Distance between housing units and a neighborhood park is more than ¼ mile		
<b>Land Use</b>	Any single developed nonfarm land use dominates, i.e. comprises more than 60% of the total developable acres per square mile		
			Lack of retail, entertainment, medical, government, institutional and other service facilities around the transit center and between the transit center and residential developments
	Public open spaces, pedestrian plazas, parks and recreational areas are rare to absent		
<b>Traffic Conditions</b>		Unsafe vehicle mix	Lack of car pool or transit only lane.
		Average traffic volumes exceed 800 vehicles per day.	
	High traffic speeds and/or lack of enforcement for existing speed limits		
<b>Physical barriers</b>	Housing is separated from other land uses by fences, 4+ lanes of traffic and/or lack of bicycle/ pedestrian facilities		Transit dependent populations are located on the urban fringe with barriers to transit service between their residential facilities and existing transit facilities
		Trails/routes are difficult to access without a car Uneven topography and poor visibility	Transit facilities are difficult to access without a car.
<b>Information barriers</b>		Routes/trails are not well marked. Signage is rare to absent	
		Inadequate bicycle safety education	Route information is difficult to find or understand
<b>Travel time to destination</b>			is 1 ½ to 2 times longer than other modes of travel
<b>Other</b>	Municipality allows bicycle riding on sidewalks	Municipality prohibits bicycle riding on sidewalks	Cost to use transit

### Additional Resources

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