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I. Executive Summary

Urban and Regional Planning Practicum students at Michigan State University have compiled this report to assist with the redevelopment effort in the GrandWalk area within the Cities of Grand Rapids and Walker, Michigan. The two primary objectives of this report are a socio-economic and business profile of the entire GrandWalk area and most importantly identifying a potential non-motorized trail through the area alongside Indian Mill Creek. The GrandWalk area shows remarkable potential for economic revitalization and this report provides a preliminary feasibility study for one aspect of overall redevelopment: the proposed GrandWalk trail.

Revitalization efforts have begun to take hold in the GrandWalk area as indicated by the recent compilation of the GrandWalk Handbook for Redevelopment early 2006. This initiative identified Indian Mill Creek, a small but historic tributary, as a natural resource ripe for incorporation into general revitalization. Building upon this document, the GrandWalk Trail Planning & Development Study seeks to contribute by proposing a trail route alongside the creek to provide access to recreational facilities, non-motorized transportation opportunities, and general enhancement of this heavily industrialized area.

The report is composed of five major research areas:

- 1) A Socioeconomic and a Business Profile *of the entire GrandWalk area*
- 2) A Master Plan and Policy Analysis *of significant trail related planning documents*
- 3) Liability Issue Classification, Construction Recommendations, and Safety Standard Identification
- 4) A Case Study Comparison *for the potential impact of nonmotorized trails on property value and incidence of crime*
- 5) Identification of a Proposed Trail Route *as well as an assessment of parcel acquisition costs*

The history of GrandWalk and Indian Mill Creek was combined with a comprehensive socioeconomic and business profile analysis to provide background on current site conditions and potential trail users. Indian Mill Creek itself was discovered to be of great historic importance to the area as home to the original industry in Grand Rapids: grain and saw mills. Indeed, the original millstones were recovered by the Hon. John Ball and are currently preserved at the public museum. This rich history is a potential source for themed development along the proposed GrandWalk trail path.

The socioeconomic and business profile of the GrandWalk area revealed that the area is home to a variety of successful industrial businesses, many of which were established at the beginning of the twentieth century. The residential neighborhoods within GrandWalk were found to be very stable, with little home turnover. There are also a large number of children within GrandWalk relative to other reference areas, and especially in combination with the surrounding cities. These potential trail users are suggestive of demand for recreational opportunities of this type. In fact, the orientation of the trail alongside Indian Mill Creek provides an excellent opportunity for connectivity with schools and other public facilities such as Riverside and Richmond Parks. The proximity of the proposed trail site to downtown Grand Rapids and its orientation as a connector between two well established



regional trail systems, the Musketawa and White Pine trails, further support development of a non-motorized trail in this area.

Upon examination of master plan and recreational planning documents for the Cities of Grand Rapids and Walker, as well as state and federal documents, the proposed trail was found to be consistent with all future area development. The master plan document analysis revealed that recreational nonmotorized trails of this sort are highly desirable from a planning perspective, as they increase the quality of life of nearby residents, improve connectivity, establish strategic green infrastructure, and increase neighborhood “livability.”

Trail development requires careful scrutiny of all corollary liability, safety, and construction standard documentation. While this report should not be used as a reference for trail engineering, the document does provide a basic illustration of common liability concerns, construction guidelines, safety considerations, signage, and intersection negotiation strategies.

In addition to collecting information on the specifics with regard to development standards, case studies of four similar trails were examined for information on trail effect on property value and incidence of crime. The conclusions drawn from all case study documentation was that the majority of residents felt that nearby trails had no impact on their property values or that, in fact, the addition of trail infrastructure increased their property value. The case studies also revealed that trails do not have an impact on nearby resident safety or security; research actually concludes that crime rates are lower along multiuse trails.

The report concludes with recommendations as to a proposed location for the GrandWalk railway, as well as logical phases for development. Rational for trail placement include consideration for existing trail networks, road right-of-way opportunities, aesthetics, perceived opposition, and especially cost. The exact location of the trail is subject to ongoing stakeholder involvement and additional feasibility/engineering assessments; however a preliminary delineation was recorded. The parcels within the proposed trail area were assessed for acquisition purposes and divided into categories (easement, outright purchase, or previously owned) for parcel cost estimation. A conservative cost of acquisition for GrandWalk trail parcels/easements within the boundaries of the GrandWalk study area (approximately 1.9 miles in length) range from \$883,527 to \$1,239,813. Trail financing options were identified for each step in the process of trail development.

This report offers a quantitative analysis of the social and economic characteristics of the overall GrandWalk area while collecting preliminary information for the ongoing development of a nonmotorized recreational trail. It is hoped that the information provided will serve as a resource for stakeholder involvement in the planning and construction of the GrandWalk trail.



II. Introduction

In January 2007, Mr. Rick Chapla of the Right Place Inc. and Ms. Carol Townsend of Michigan State University (MSU) Kent County Extension, sought the assistance of Michigan State University practicum students to assist in developing recommendations for the planning and development of the GrandWalk trail. The trail study area is within the boundaries of GrandWalk, a primarily industrial area composed of both the City of Grand Rapids and the City of Walker in western Michigan. The specific focus of this practicum project is twofold, first the development of a socioeconomic and business profile for the GrandWalk area in general and second, an assessment of the feasibility and ideal form of the nonmotorized trail along an abandoned railway corridor within GrandWalk and abutting Indian Mill Creek.

Client Information

The project clients consist of Mr. Rick Chapla Vice President of Urban Redevelopment at the Right Place Inc. and MSU Kent County Extension Urban Community Development Agent, Carol Townsend. Mr. Chapla leads the Right Place urban redevelopment activities including initiating the GrandWalk Redevelopment Handbook “Connecting the Dots” that was published in 2006. This handbook is intended as a foundation for a 3-5 year plan for public and private entities to redevelop the 1,100-acre industrial mixed-use GrandWalk neighborhood. Ms. Townsend is a leader in strengthening citizen-based organizations to promote positive land use decisions. She has also initiated the United Growth Coalition for Kent County, which unites both urban and rural interests for sustainable growth in the region.

Purpose of the Project

The purpose of this project is both to research and describe the GrandWalk area through a socioeconomic profile/business profile and to develop recommendations for the GrandWalk trail development process. The report suggests a proposed ideal route and potential physical characteristics for the trail. Incorporating the needs, desires, and suggestions of area stakeholders, while keeping in mind the history and industrial character of the area, this project builds upon the natural beauty of Indian Mill creek to create a preliminary trail design.

This report will establish the status and document the history of the overall industrial GrandWalk area with particular attention to Indian Mill Creek and the abandoned rail corridor that runs the length of the study area. The recommendations in this report will constitute the ideal trail orientation, necessary land acquisition, as well as trail standards and design recommendations for the potential trail. An assessment of the impact of nonmotorized trails of this type with regard to property value and incidence of crime will also be conducted in order to advise the client on ways to promote and adequately design the trail. The report will relate trail development decisions to local and regional planning directions and objectives.



Report Content

The overall purpose of the report is to provide a preliminary feasibility study for trail development and to expand organizational support for the project by consolidating baseline information and through stakeholder interaction.

GrandWalk trail planning and development report will provide:

- **Recreational Context and Planning Objectives** – This section will provide a planning context for trail development, relating overall planning objectives with local master and recreational plans, as well as regional initiatives that promote recreation and greenspace. Stakeholders will be identified along with their suggestions and vision for the trail.
- **Legal and Procedural Trail Requirements** – This section will detail the safety and liability concerns associated with trail development. Established trail standards for development, methods for land assembly, as well as elements of physical design will be examined.
- **Trail Impact Assessment** – Case studies from a national, state, and more local perspective will be analyzed to determine the impact of trails on property value and the frequency of trail related crime.
- **Trail Route Identification** – The ideal trail route through the GrandWalk study area will be identified, along with access points, amenities, connections with other local trails, phases of development, marketing, and general financing information.
- **Land and Infrastructure Inventory** – As part of the route identification process, the status and ownership of land that would be used for trail development and estimations as to the total cost for acquiring the necessary properties and easements, will be documented.

Overview of Project Boundaries

This section will clarify the geographic location of the Cities of Grand Rapids and Walker within Kent County Michigan, and more specifically the boundaries of the GrandWalk area within these two cities.

The City of Grand Rapids and the City of Walker are located in west central Michigan, within Kent County. Both cities touch the Grand River which flows west to empty into Lake Michigan. See Map 1.

The GrandWalk area where the studied portion of the GrandWalk trail will be located is made up of both of these municipalities. The area is bounded by I-96 to the North and Richmond Street to the South. The Grand River makes up the Eastern border, while Bristol Avenue is the Western boundary. See Map 2.

The GrandWalk trail is proposed to travel west along Ann Street before crossing to the south side of Indian Mill Creek. Indian Mill Creek, which empties into the Grand River, is located in the southern portion of the GrandWalk area. The majority of the proposed trail would follow an abandoned railroad corridor next the south banks of Indian Mill Creek before reaching the western boundary of our study area at Bristol Ave. See Map 3



Insert Map 1 here

Location of City of Grand Rapids and City of Walker in Michigan



Insert Map 2 here

Boundaries of GrandWalk within Cities of Grand Rapids and Walker



Insert Map 3 here

Location of proposed GrandWalk trail relative to GrandWalk



III. Profile of GrandWalk Area and Indian Mill Creek

Introduction

Understanding the characteristics of the study area is the first step in proposing a strategy for developing the GrandWalk trail. The history of the study area was researched to identify those factors that contributed to creating the identity of the GrandWalk area. Also, in order to understand the preferences of local residents for different types of recreational activities, the socio-economic profile of local residents was analyzed. A general inventory of accommodation and recreational facilities available in GrandWalk was performed, along with a more detailed analysis of industrial sectors that have potential to be expanded in the study area. In the final part of this section, the capacity of the GrandWalk trail to make other trail connections and links with other recreational activities in the study area was assessed. An informal SWOT (strengths, weaknesses, opportunities and threats) from the community profile was used to evaluate the potential benefits of the trail to economic redevelopment of the area and quality of life improvements for residents.

GrandWalk Area

Early History

The GrandWalk region in west Michigan is overlapped by both the City of Grand Rapids and the City of Walker. It is comprised of approximately 1,100 acres, with I-96 as the Northern boundary, Richmond to the South, the Grand River on the East, and Bristol on the West. Prior to European settlement, this area was home to the Hopewell Indians and later the Ottawa Indians who lived alongside the Grand River and Indian Mill Creek. The Ottawa Indians, in cooperation with the Slater Mission, erected the first lumber mill in the region near the mouth of Indian Mill creek in 1834. After years of fur trading and missionary work and the settlement of Grand Rapids by Louis Campau in 1826, the Grand-Walk region itself was officially settled in 1836 by Samuel White. In 1837, Walker Township was formed and by December, 1850 it was organized into the City of Walker. Likewise in early 1850, Grand Rapids was incorporated as a city.

Industry

The early settlement of the area was hastened by a prosperous lumber industry with as many as five mills on Indian Mill Creek alone. The federal government provided saws early on but the mill work began to change in the 1870s and flour grist mills became more popular. Gypsum mining, oil, gravel pits, and even wagon construction, including Harrison Wagon Works in 1856, were some of the historic industries in the area.

In 1936 the General Motors Plant moved to Alpine Avenue. GM produced fuselages for fighter planes in 1952 and then changed over to produce the interior trim for the 1955 Chevrolet. Later the same plant building on Alpine Avenue was used by the Lear Corporation SSD to produce automobile interior components such trim, seats, and electronics. Unfortunately the Lear plant has since closed. However the building remains an incredible industrial resource for the GrandWalk area as existing infrastructure that could be eligible for both Brownfield and Renaissance zone state and local tax relief.

Along with the construction of automobile materials, the deconstruction and recycling of auto parts is a dominant area industry. Grand Rapids Auto Parts, Baker Auto Parts, and Louis Padnos Iron



and Metal Company all work in auto salvaging, and there are several smaller salvage yards alongside Indian Mill Creek in the western portion of GrandWalk. Haviland Enterprises Inc., located on Ann Street, distributes and blends chemicals while Betz Industries produces automotive dies, patterns, and machine beds. H & H Metal Source supplies sliced steel to local furniture manufactures, especially Steelcase.



Figure 1 – Scrap Metal Industries of GrandWalk

As a side effect of industrial development in the area, some of GrandWalk is affected by environmental contamination. Years of automobile related industries and both public and private landfills alongside the Grand River between the 1920s and 1960s has contributed to significant contamination of the soils, Indian Mill Creek, and local groundwater supplies; they have also contributed to the strongly industrial area perception. The City of Walker has had two sites on the EPA's National Priorities List for Superfund environmental cleanup. H. Brown Co., Inc. near 2200 Turner Avenue NW consists of four acres within a 50-year floodplain of the Grand River that are contaminated with sulfuric acid and heavy metals especially lead. The Brown Co. operated an uncontrolled dump on this property, leasing portions to the City of Grand Rapids in the 1950s, before operating a battery recycling business. This site remains a Superfund site today. Folkertsma Refuse at 1426 Pannell Road NW was removed from the NPL in 1996 but EPA review of the site continues today for prior arsenic and heavy metal contamination.

Indian Mill Creek

Originating in the agricultural fields of Alpine Township in the area south of 8 Mile Avenue, Indian Mill Creek flows in a southeasterly direction to empty into the Grand River just north of Leonard Street. The creek derives its name from a mill that was erected near its mouth on a site near the present junction of the (now renamed) Detroit and Milwaukee and the Grand Rapids and Indiana railroads, about a fifth of a mile above the mouth of the creek. The first lumber saw mill in the Grand Rapids area was constructed on Indian Mill Creek and historically produced 500 to 800 feet of wood per day, depending on how swift the water was moving. This mill and the dozens of others that were constructed contributed to the growing lumber industry of the mid-late 1800s. During the first ten years of early settlement (1832-1842), five sawmills were erected alongside Indian Mill



Creek, grinding wheat flour and corn meal in addition to sawing lumber. The grinding mill was a great convenience to the original settlers who otherwise had to travel to the Gull Prairie Mill, east of Kalamazoo, for flour. Hand drawn Fire Insurance Maps (see Figure 2) from 1895 and 1913 reveal the increasingly industrial nature of land alongside Indian Mill Creek that continues today.

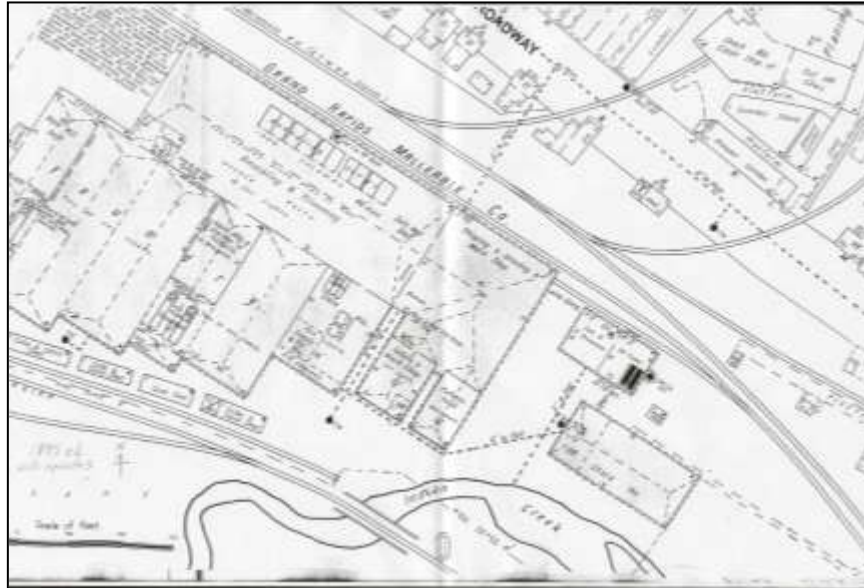


Figure 2 – 1896 Fire Insurance Map



Figure 3 – Indian Mill Creek, 1931



The Hon. John Ball purchased the property on which the first Indian Mill stood long after the structure had disappeared. He eventually recovered the original Indian Mill Creek mill's granite millstones. (See Figure 4) He found the stones in the mud of the banks of the creek, and upon recognizing their significance, had them relocated to his residence at the top of the Fulton Street hill, no. 414, in 1867. The stones were used there for a horse block until 1892. In 1904, the heirs of John Ball presented the millstones to the Kent Scientific Institute, which later became the Public Museum of Grand Rapids. (See Figures 5 and 6) In 1928, the Grand Rapids chapter of the Daughters of the American Revolution provided a bronze tablet documenting the history of the stones, setting them in the lawn before the museum where they remain today. Just a few years later, with the onslaught of the great depression, Grand Rapids Mayor George Welsh began a "scrip" labor program to employ workers. One contingent of these workers cleared debris from Indian Mill Creek, which continued to grow as an industrial area. (See Figure 7)



Figure 4 – Original Indian Mill Stones outside the Grand Rapids Public Museum, 2007



History:

In 1833 "the Indian Mill was built, on the creek that enters into Grand River in the north part of the city on the west side. Its site was some 60 rods from the mouth of the stream, +++ The cheap run of stones put in that mill were a wonderful convenience to the inhabitants, as there was no chance for grinding elsewhere nearer than Gull Prairie. ++ ++ Let them do service +++ with the addition that they be inscribed, 'The first in the G. R. Valley' Prof. Franklin Everett in "Memorials of the Grand River Valley," page 37c.

"There was no grist mill this side of our new Gull Prairie. +++ There was a saw mill above where Sweet's Hotel now stands +++ and the Indian Mill, on Indian Mill Creek. They did put into the last named mill a run of granite stones to crack corn, and the like. At a later day coming in possession of that property after the mill had disappeared, I removed these stones to the front of my house, where they are an historical horse-block." John Ball, in Everett's Memorials of the Grand River Valley, page 22; Also, L.C., page 40. (to other side)

THE
KENT SCIENTIFIC INSTITUTE.

LOCATED AT
GRAND RAPIDS, KENT CO., MICH.

For the study of the Sciences, the Knowledge and Maintenance of a Natural History Museum, and the Promotion of Scientific Education.

Incorporated, Jan. 2, 1898.
Regular Meetings, first and third Friday evenings of each month, except July and August.

GRAND RAPIDS, MICH., Sept. 25th 1905.

"We the undersigned, the heirs of the late Hon. John Ball, desire to place in the Kent Scientific Museum the mill-stones with which the Indians who formerly occupied what is now Kent county, Mich. ground their corn on the bank of the Indian Mill creek, respectfully request the Kent Scientific Institute to accept the same with our compliments and continued well wishes for the prosperity and increasing usefulness of the Museum.

Frank W. Ball
Kate W. Ball Powers.
Elova Ball Hopkins
Lucy Ball
John H. Ball

cc to other side.

Figure 5 – Handwritten History of Indian Mill Stones by the Ball heirs
 Figure 6 – Letter from John Ball’s heirs regarding Indian Mill Stone donation

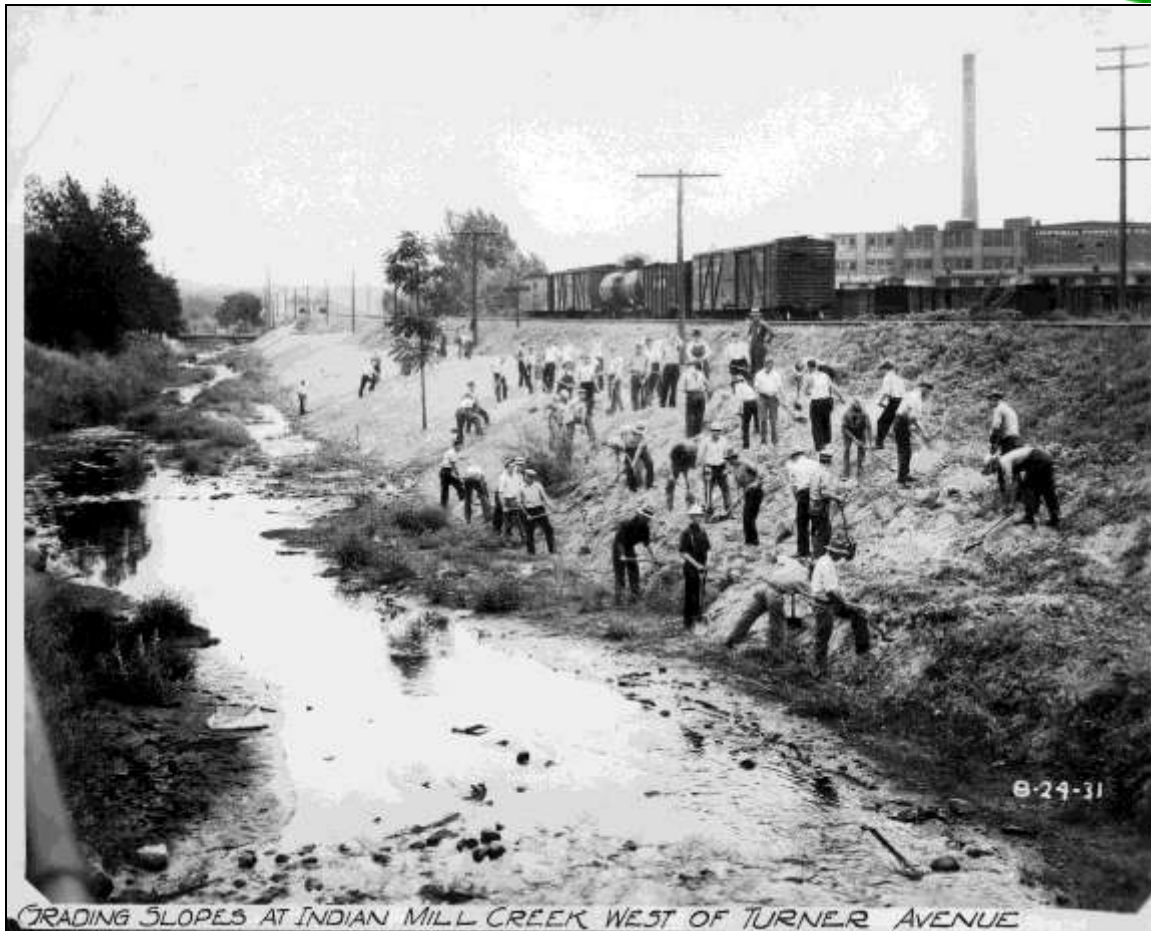


Figure 7 – Scrip Labor Workers Grading Slopes of Indian Mill Creek, 1931

In addition to being a great historical asset to the GrandWalk area, Indian Mill Creek is an unusual natural resource. Although there is a great deal of agricultural and transportation/urban residential runoff into the creek and surrounding watershed, according to a study performed by the DEQ in 2003, this runoff has not inhibited a strong population of salmon that spawn in the lower reaches of the watershed. The natural geography of the creek also forms a logical line connecting the two longest trails in West Michigan, the Muskatawa to the west and the White Pine Trail to the north. A link between these trails alongside Indian Mill Creek could provide recreational opportunities while simultaneously protecting a historic natural resource.

History of Railroads

GrandWalk is criss-crossed by several active and inactive rail-lines. The abandoned rail line, which currently runs alongside much of the length of Indian Mill Creek and the proposed GrandWalk trail, once belonged to the Grand Rapids and Indiana Railroad. The Grand Rapids and Indiana Railroad Company was formed on January 18, 1854. On December 25, 1867 the company's first train traveled 20 miles, from Bridge Street in Grand Rapids to Cedar Springs. Then on September 13, 1870, the track that comes from the south into Grand Rapids was finished. The north line was completed from Grand Rapids to Paris, Michigan on October 1, 1870, and then in June of 1871, the company bought the Cincinnati, Richmond, and Fort Wayne Railroad Company. This acquisition enlarged the line and extended it all the way to Cincinnati. From Paris, Michigan (just north of Big



Rapids), the line was extended north to Petoskey on November 25, 1873. The longest north-south Michigan railroad line in 1891 was that of the Grand Rapids and Indiana Railroad. Faced with financial instability, the railroad was acquired by the Pennsylvania Railroad Company in 1918. (See Figure 8) Then in 1975, the Michigan Department of Transportation (MDOT) bought the railroad from the Pennsylvania Railroad Company. MDOT discontinued operation of the rail line in the mid 1980's. Today, the White Pine Trail State Park uses much of the old railroad right-of-way between Grand Rapids and Cadillac, Michigan. (Wikipedia, 2006) The small spur of the old Grand Rapids and Indiana Railroad that runs alongside Indian Mill Creek, is currently divided into several different parcels of land with different owners, including the Pennel Company, a former land-holding subsidiary of the Pennsylvania Railroad, as well as Conrail, and private individuals.

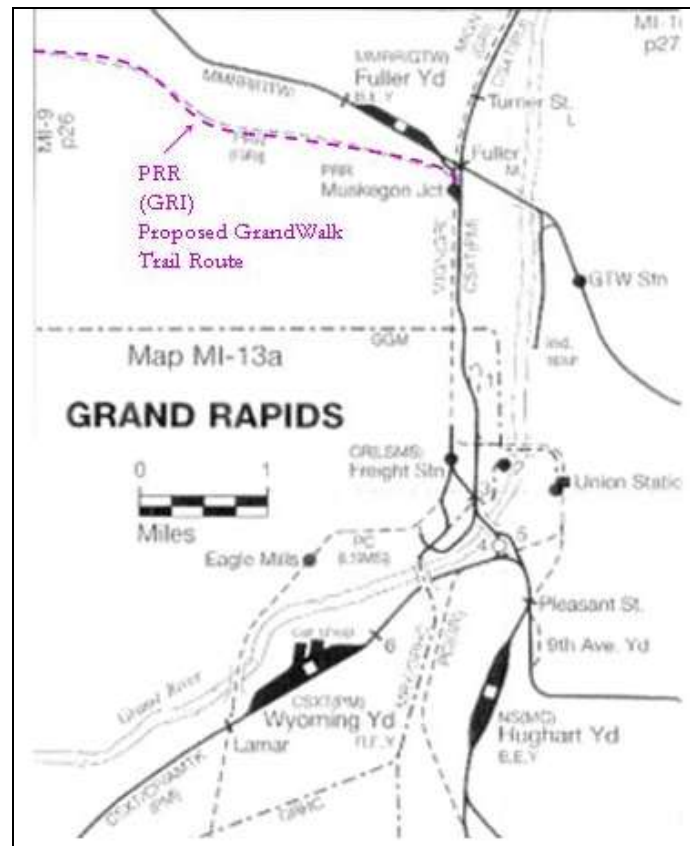


Figure 8 – Historic Rail Map Depicting the PRR – Pennsylvania Rail Road, which bought the GrandWalk Trail Corridor from the Grand Rapids and Indiana Railroad (GRI)



Socio-economic profile

To better understand the characteristics of people and businesses within GrandWalk and specifically alongside Indian Mill Creek, an analysis of the demographics of study area and of surrounding areas was performed. GrandWalk falls within the boundaries of three census tracts and includes block group 1 of census track 7, parts of block group 1 and 2 of census track 8, and parts of block groups 1, 2 and 3 of census track 115. (See Map 4 on the next page.) To better understand data collected for GrandWalk area, City of Grand Rapids, City of Walker, Kent County and the State of Michigan were all used as reference areas to compare the development trends identified for GrandWalk.

Socio-economic data for the year 1990 and the year 2000 for all five units of comparison were taken from U.S. Census Bureau, Summary File 1 and Summary File 3. The 1990 decennial data are not available at block level; therefore, 1990 data for GrandWalk were collected at the block group level. In order to show development trends and to make comparisons, data for the GrandWalk area for the year 2000 were also collected at the block group level. Even though, in this case, the area analyzed is larger than the GrandWalk area and the analysis does not provide the most accurate information about the study area, it is still meaningful for creating a general perspective of the area. In some cases, 2000 data for GrandWalk were still reported at block level and this data was used whenever possible.

The 1990 and 2000 demographic data for City of Grand Rapids, City of Walker, Kent County and the State of Michigan were supplemented by 2006 demographic estimates and 2011 demographic projections. These data were collected from ESRI, a data source that collects and analyzes demographic and economic information to create community profiles.

Social and Economic Characteristics of GrandWalk Residents

It is essential during the development of a recreational facility to be aware of the social characteristics of the population living in the study area. The age of population is important in recreational planning due to the different needs of each age cohort. If the community is aging or has become a destination for retirees or empty nesters, there may be need to plan for a specific facility design to accommodate the changing needs of this population group. Social characteristics such as education, household size, income, race/ethnicity and ancestry are also considered and presented within the following section.

Population

1990 and 2000 Census data along with 2006 population estimates and 2011 population projections were collected to establish population trends for GrandWalk area as well as for the surrounding communities, Kent County and the State of Michigan. The exact number of people living in GrandWalk was determined only for the year 2000, because this is the only decennial census that provides information at block level, as it needed for the study area. For all other reference areas, data were gathered for years 1990, 2000, 2006, and 2011.



Insert Map 4 here
Census Tracts



	Census 1990	Census 2000	1990- 2000 Change	2006	2000- 2006 Change	2011	2006- 2011 Change
Grand Rapids	189,126	197,800	4.59%	200,305	1.27%	206,948	3.32%
Walker	17,279	21,842	26.41%	26,369	20.73%	28,776	9.13%
Kent County	500,631	574,335	14.72%	610,412	6.28%	640,348	4.90%
Michigan	9,295,297	9,938,444	6.92%	10,317,569	3.81%	10,605,939	2.79%

Figure 9 – 1990 to 2011 Population Trends Table
including U.S. Census data from 1990-2000, and 2006-2011 ESRI Population Projections

In 2000 GrandWalk had a population of 4,812 people, while City of Grand Rapids and the City of Walker had populations of 189,126 and 17,279 respectively. As Figure 9 indicates, the City of Walker grew at the fastest rate, at over 26% from 1990 to 2000. Kent County grew at the second fastest rate, at over 14% during the same period. The City of Grand Rapids and State of Michigan grew at approximately the same rate, 4% and 7%. According to the population projections provided by ESRI, none of the cities will decrease in population, although the rate of increase will slow down. The City of Walker is expected to be the fastest growing city, but by 2011, the rate of growth will decrease. The projected increase in the population of surrounding communities is a good indicator of an increase of potential users of the proposed GrandWalk Trail.

Age

Understanding the age distribution of a community's population is essential when considering the design and the amenities of the future trail. For example, an increasingly elderly population may require evaluating handicapped accessibility issues to ensure that they have the opportunity to fully participate in the use of the trail.

	1990	2000	2006	2011
GrandWalk	-	32.15	-	-
Grand Rapids	29.9	30.4	31.5	32.3
Walker	31.3	32.4	33.7	34.1
Kent County	30.7	32.6	33.7	34.3
Michigan	32.6	35.5	37.2	38.3

Figure 10 – Median Age, 1990 and 2000 U.S. Census

The 2000 Census data (reflected in Figure 10) show that the median age of the residents living in GrandWalk is similar with to the median age of the residents living in City of Walker and Kent County. In GrandWalk, median age is 32.15 years old, while in Walker is 32.4 years old and Kent County is 32.6. The City of Grand Rapids has a younger population that has a median age of 30.4 years old, while the state is aging, the median age of people being 35.5 years old. The 2011 demographic estimates are not available at block level, as it is needed for GrandWalk area, and therefore, population trends can not be analyzed. However, the estimates for the reference areas indicate that the population will remain relatively young. We assume that GrandWalk will share the same trend.



Age	Grand Rapids			Walker			Grand Walk		
	1990	2000	Change	1990	2000	Change	1990	2000	Change
Under 5	17,740	16,335	-7.92%	1,289	1,511	17.22%	469	644	37.31%
5 to 9	15,339	15,198	-0.92%	1,288	1,597	23.99%	426	664	55.87%
10 to 14	12,274	13,903	13.27%	1,115	1,622	45.47%	416	627	50.72%
15- 19	13,358	15,613	16.88%	1,127	1,506	33.63%	476	523	9.87%
20 - 29	36,798	36,212	-1.59%	3,363	3,864	14.90%	1,336	1,600	19.76%
30 - 39	31,990	30,883	-3.46%	3,046	3,481	14.28%	1,184	1,393	17.65%
40 - 49	17,821	25,713	44.28%	2,089	3,174	51.94%	875	1,218	39.20%
50 - 59	12,125	15,870	30.89%	1,442	2,090	44.94%	628	805	28.18%
60 - 64	6,970	5,115	-26.61%	605	688	13.72%	305	264	-13.44%
Over 65	24,711	22,958	-7.09%	1,915	2,309	20.57%	1,014	814	-19.72%

Figure 11 – 1990 and 2000 Age Distribution Table, U.S. Census

Figure 11 shows the change in age distribution in GrandWalk, the City of Grand Rapids and the City of Walker. The data indicate that the number of children and youth are increasing in GrandWalk at over 50% between 1990 and 2000. Also, the number of people in the age group 40-49 and 50-59 increased at high rates. Only residents over 60 years old are leaving the area. The age group which shows the most dramatic decrease is of people over 65 years old (-19.72%). It is important to note that these data do not provide perfect information about the demographic trends in the GrandWalk area because 1990 and 2000 census data were collected at block group level and these block groups are representative for an area larger than the study area.

The age distribution for the City of Grand Rapids shows a similarly decreasing number of residents over 60 years old. In City of Walker, the number of people over 60 years old increased between 1990 and 2000. In both cities the number of residents between 40 and 59 years old increased by an average of 40%. The City of Walker faced an increase of all age intervals, while City of Grand Rapids saw a reduction in the population of children up to 9 years old. These data indicate that the City of Grand Rapids will age at faster rate than the City of Walker, but the rate of change will still be slow because the city is losing elderly residents.

Households

A trend characteristic of today's population is the declining size of households. Married couple households still comprised the largest group, but the number of single parent households is increasing and expected to grow, contributing to the decline in average household size.



GrandWalk	Average Household Size		Change %
	1990	2000	
Block group1, Census Tract 7	2.83	2.22	-21.55%
Block group1, Census Tract 8	2.6	2.77	6.54%
Block group2, Census Tract 8	3.3	2.85	-13.64%
Block group1, Census Tract 115	3.03	2.05	-32.34%
Block group2, Census Tract 115	3.1	2.86	-7.74%
Block group3, Census Tract 115	2.98	2.05	-31.21%

Figure 12 – 1990-2000 Change in Average Household Size for GrandWalk, U.S. Census

An analysis of average household size change between 1990 and 2000 was performed at block group level for GrandWalk area (Figure 12). Even though, the area analyzed is larger than the study area, the results clearly indicate a decrease in the average household size. The weighted average for the area indicates a decrease by 16.42% of the number of people that form a household. Figure 13 shows that household size decreased in all the other reference areas at slightly higher rates than in GrandWalk. The City of Walker shows the most surprising result. Even though Figure 11 indicates that the number of residents in all age groups are increasing, the household size decreased by 22.47% between 1990 and 2000.

	1990	2000	% Change
Michigan	3.16	2.56	-18.99%
Kent County	3.2	2.64	-17.50%
Grand Rapids	3.2	2.57	-19.69%
Walker	3.16	2.45	-22.47%

Figure 13 – 1990-2000 Change in Household Size, U.S. Census

In the GrandWalk area, even though the number of children and youth increased, as did the age group of mid career professionals, the household size decreased between 1990 and 2000. One of the factors that might explain this trend is decreasing family size.

Race/Ethnicity

Figure 14 shows that the GrandWalk population was predominantly white in 2000, with 93.9% of population responding as such. The remaining population responded as either being Black or American Indian/Asian/Pacific Islander. The GrandWalk area has a similar racial composition as the City of Walker, which has 94.5% white residents. This geographical area is not as racially diverse as City of Grand Rapids, which reported a white population of 67.3%, Kent County (83.1%) or the State of Michigan (80.2%). The percentage of Hispanic population in GrandWalk is low, 3.08%, comparatively with the City of Grand Rapids (13.1%) and Kent County (7.0%), but it has similar statistics of Hispanic population as reported for City of Walker (2.8%) and State of Michigan (3.3%).



	Total Population	White	African American	American Indian; Asian or Pacific Islander	Some Other Race Alone; 2 or more races	Hispanic
GrandWalk	4,812	93.9%	1.0%	2.0%	3.1%	3.08%
Grand Rapids	197,800	67.3%	20.4%	2.4%	9.8%	13.1%
Walker	21,842	94.5%	1.5%	1.5%	2.6%	2.8%
Kent County	574,335	83.1%	8.9%	2.4%	5.5%	7.0%
Michigan	9,938,444	80.2%	14.2%	2.4%	3.2%	3.3%

Figure 14 – Racial Composition Comparison Table, 2000 U.S. Census

Median Household Income

Median household income is a broad measure of the relative economic wealth of the residents of a community. As Figure 15 indicates, in 2000, the median household income in GrandWalk was the lowest of all reference areas compared. Families living in the industrial part of GrandWalk (south part of Ann Street and Turner Street) have the lowest level of income. The 1990 census data show the same pattern of distribution of income within the GrandWalk area, with the poorest families living in the more industrial areas.

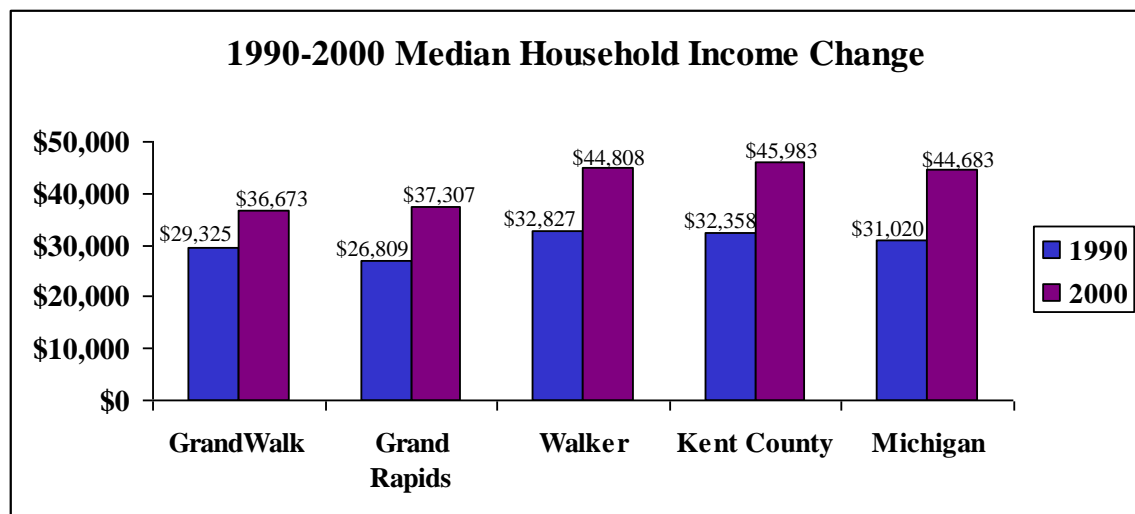


Figure 15 – 1990 and 2000 Median Household Income, U.S. Census

Between 1990 and 2000, the rate of increase of median household income of the people living in GrandWalk was smaller than the rate of increase for all the other reference areas. While the median income increases by 44% at state level, it increased only by 25% in GrandWalk.



School Enrollment

It is generally accepted that level of education is a good predictor for the income level of a person. The statistics show that a higher level of education is directly correlated with a higher level of income. The school enrollment statistics for GrandWalk support these findings and they indicate that the number of residents with bachelor and graduate degrees decreased between 1990 and 2000, while in reference areas it increased by an average of 5%. This result is consistent with previous findings that the income of GrandWalk residents increased between 1990 and 2000 at a slower rate than the income of residents living in all other reference areas.

Figure 16 and Figure 17 indicate the school attainment in GrandWalk and in all other reference areas in 1990 and 2000. These figures show that there are not significant differences between the distributions of educational attainment in these areas. The largest percentage of GrandWalk residents (35.37%) have a high school degree, while approximately 22% of total residents have some college experience, but no degree. Between 1990 and 2000 the number of people with high school degrees and those that are enrolled (or were enrolled) in college, but that do not yet have a diploma increased by more than 6%. Also, between the same years, the number of GrandWalk residents that had less than a ninth grade education decreased by slightly over 5%.

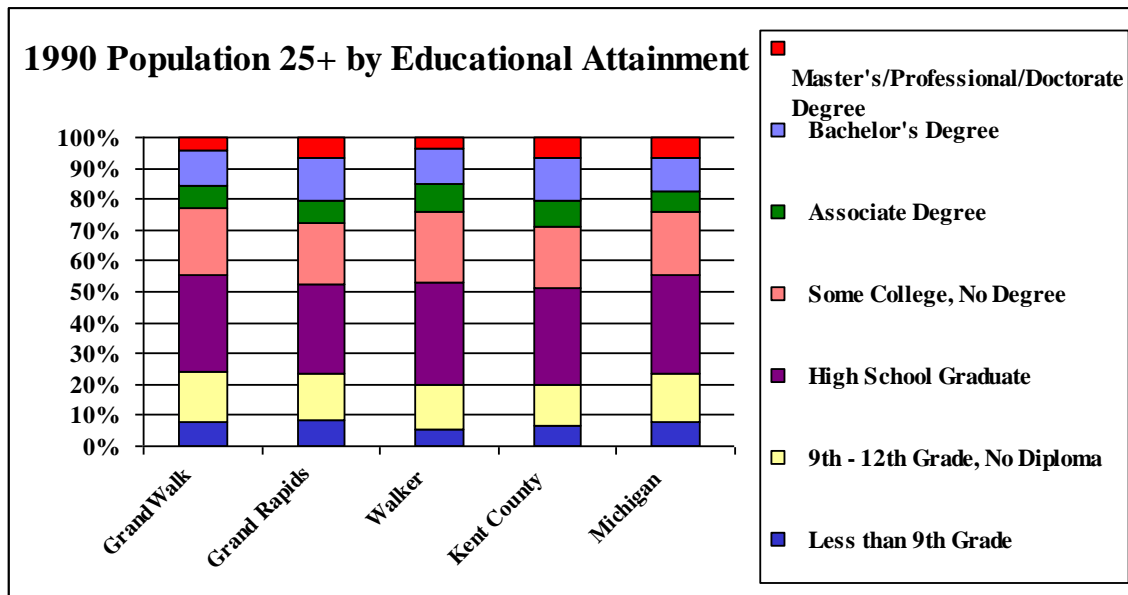


Figure 16 - 1990 Educational Attainment, U.S. Census

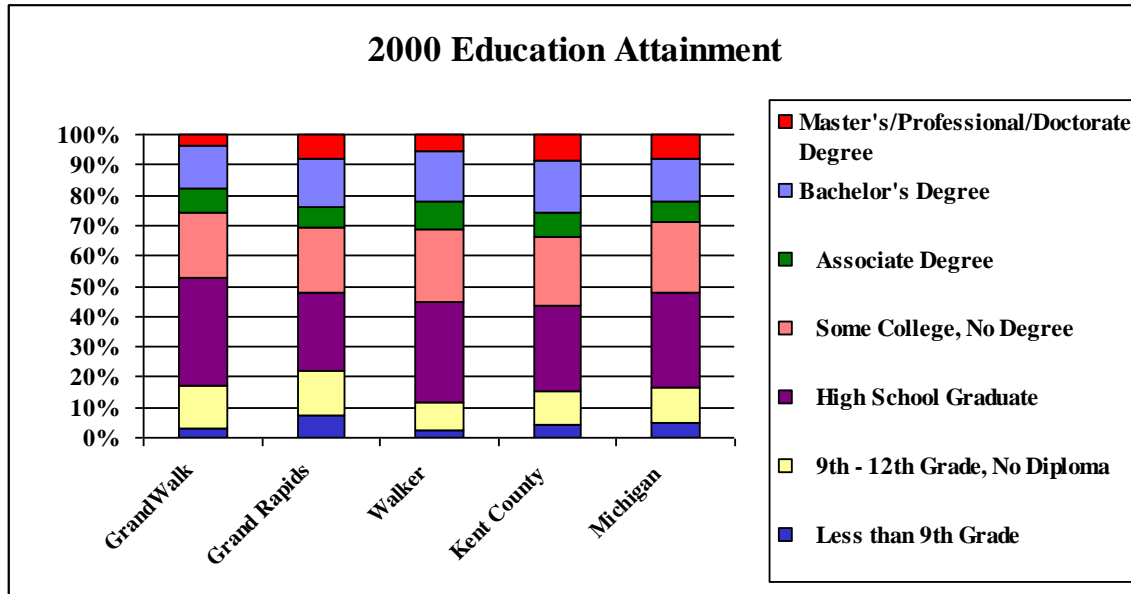


Figure 17 – 2000 Educational Attainment, U.S. Census

Median Housing Value

The character of the residential area in GrandWalk can influence potential trail user desire to use the trail. The value of GrandWalk housing stock is low. As Figure 18 and 19 indicate, the median housing value in GrandWalk had a high rate of increase between 1990 and 2000 (71.9%), but in 2000 the housing value is still low compared with most other reference areas. In 2000, the median value of houses was \$91,600, which is similar to the value of houses in Grand Rapids, but lower than those of houses in the City of Walker. A detailed analysis of the distribution of the values among the census tracts and block groups, indicate that the houses located in census track 8, block groups 1 and 2 have the lowest values. This area is more industrial, with several recycling businesses and salvage yards located there, which may have an effect on the value of residential properties.

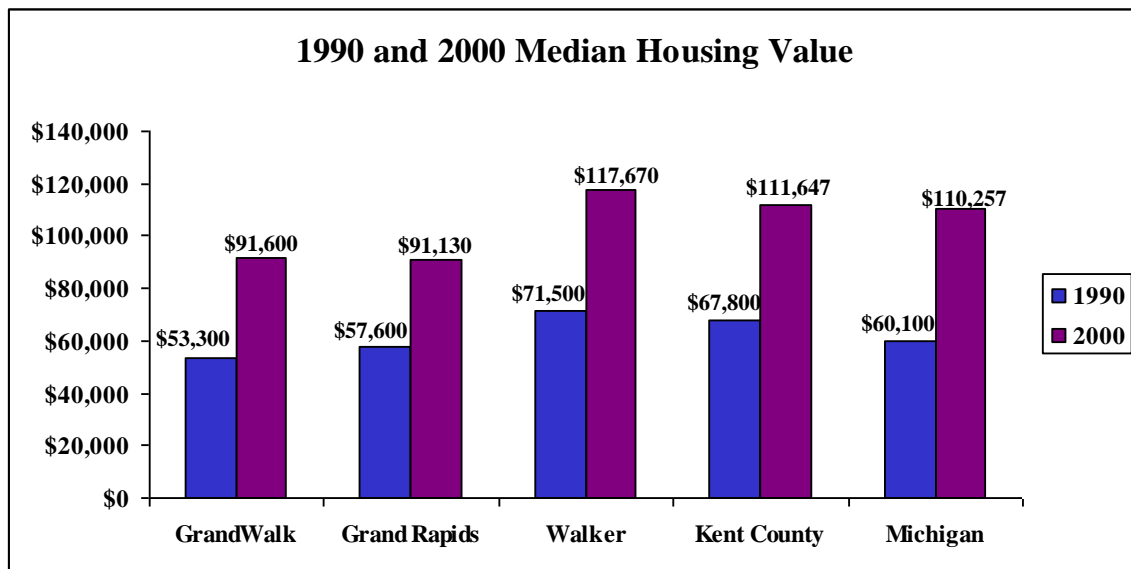


Figure 18 – 1990 and 2000 Median Housing Value, U.S. Census

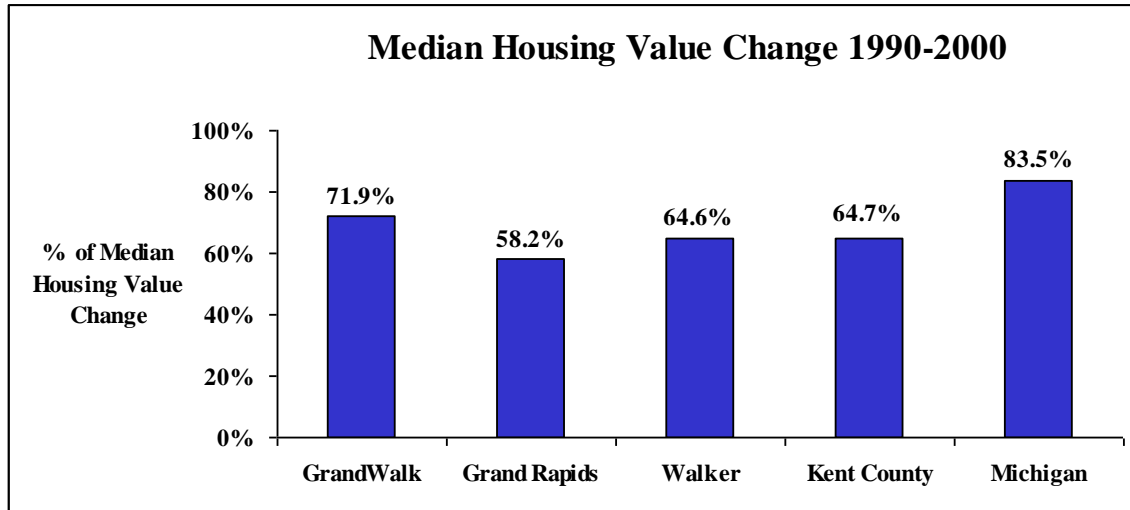


Figure 19 – Median Housing Value Change between 1990 and 2000

Housing Tenure

Even though the housing value in GrandWalk is lower comparatively with the other reference areas, census information shows that GrandWalk has stable residential neighborhoods. In 2000, the vacancy rate was 2.3%, the lowest rate among all reference areas of analysis (Figure 20). Also, the percentage of owner occupied housing units is the highest (77.4%), well above the average at the state level (Figure 21).

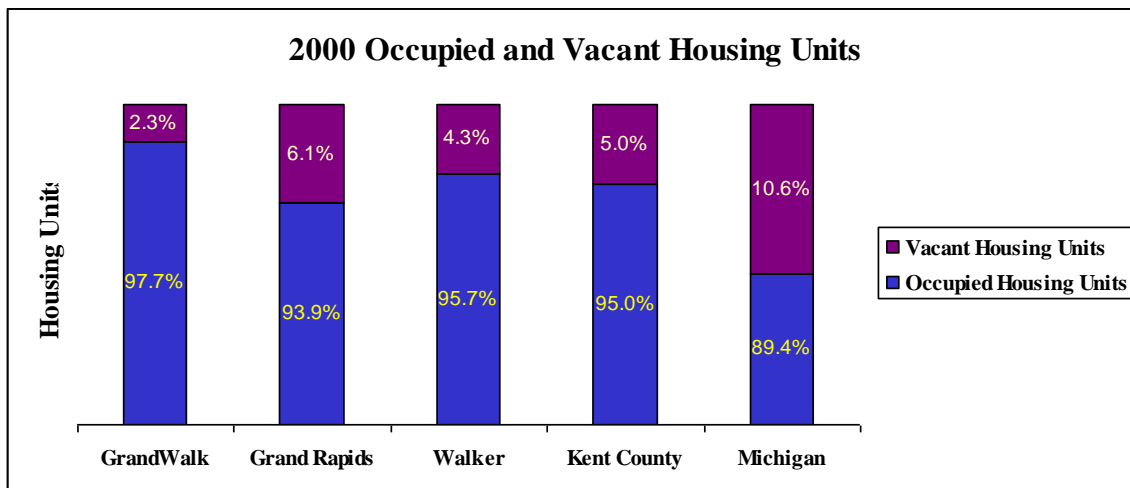


Figure 20 – Owner and Occupied Housing Units, 2000 U.S. Census

In general, the 1990 data show a high vacancy rate, 20%, in block group 1, census track 8 and a low value of the housing units. As mentioned before, several salvage yards are located in this area. Even though between 1990 and 2000 the vacancy rate for this block group dropped, the value of housing stock remained low compared with other census tracks. Unfortunately, 1990 census data for GrandWalk were collected at block group level and the data for block group 1, census tract 8



includes information for a larger area than the study area. Therefore, events that may have occurred outside the study area could partially explain this change.

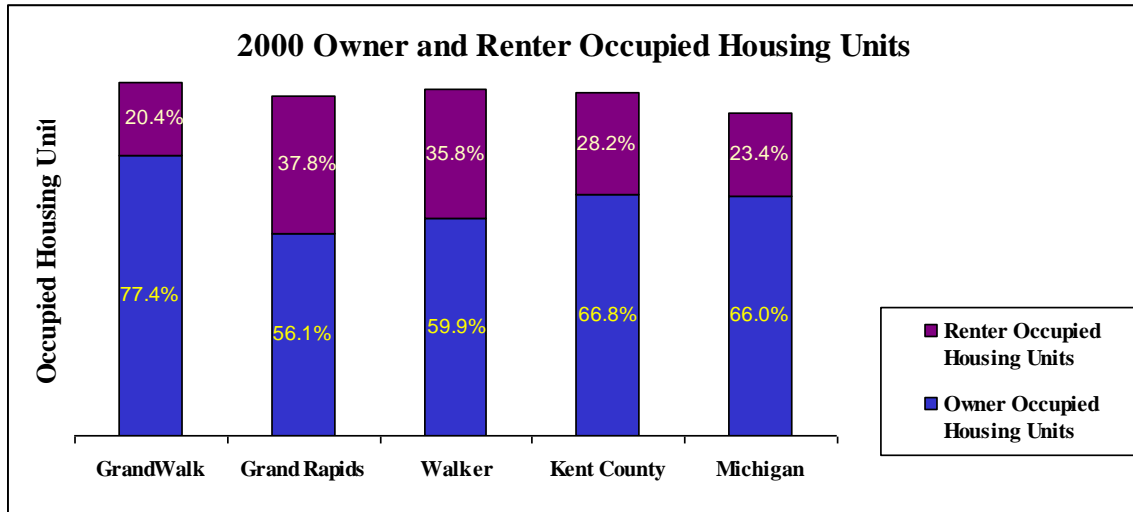


Figure 21 – Owner and Renter Occupied Housing Units, 2000 U.S. Census



Business Profile

The following section provides an overview of the local GrandWalk economy, in terms of business performance. This section should be viewed as a “snapshot” of the local economy. In preparing this document, data provided by our client have been used. These data contain the following information about each company located in the study area: the SIC code, the number of employees and the volume of sales. All the data are relevant for year 2005. Some of the data are actual values, but others are estimates. A total number of 377 companies were analyzed.

The industrial sector of local businesses was reported using 1987 SIC, but they were transformed in 1997 and then again in 2002 to NAICS codes. This manipulation was done to allow comparisons with similar data at state and county level, and to make inferences about development trends of the study area. The present analysis reports the data based on 2002 NAICS codes. The volume of sales refers to the revenues from the products and/or services sold by the company over a year of activity. This measure, even though it does not give information about company profit, it is used to determine the share of the market that the respective company controls. The number of employees represents the average number of people employed over the previous 12 months by a company or by the branch of the company located in the GrandWalk area. Even though it was not specified in the database provided by the client, we assume that any person on the payroll was included as one person, regardless of the number of hours worked or the temporary status.

General Information about Businesses

Classification of Business Based on Number of Employees

A general analysis of the local businesses was performed based on the number of employees, volume of sales and industrial sector. Governmental agencies use several criteria to determine the size of a business; they vary for each industrial sector, based on the number of employees or the volume of sales. For the purpose of the present report, a convention was used to classify businesses based on their size. Regardless on the industrial sector, those businesses having between 1 and 99 employees were classified as small size businesses; those having between 100 and 500 employees were classified as a medium size business. No business in the GrandWalk area was reported as having more than 500 employees in 2005.

The analysis of the size of businesses located in GrandWalk shows that for the most part they are small or medium sized. 95% of all companies have fewer than 49 employees. Figure 22 shows that 50% of businesses have less than 5 employees, 17% have between 5 and 9 employees, 16% between 10 and 19 employees and 12% between 20 and 49 employees. The database reported no company as having more than 500 employees.

The medium size businesses (those having between 100 and 500 employees) represent only 2% of the total employers in GrandWalk. Some of the larger medium size companies located in the study area are: Evans Tempcon Inc., Betz Industries, Laser Access, Kent County Head Start, Home Depot, Meijer, Haviland Enterprises and Williams Kitchen and Bath. See Map 5.



Insert Map 5 here
GrandWalk Business Employment Map

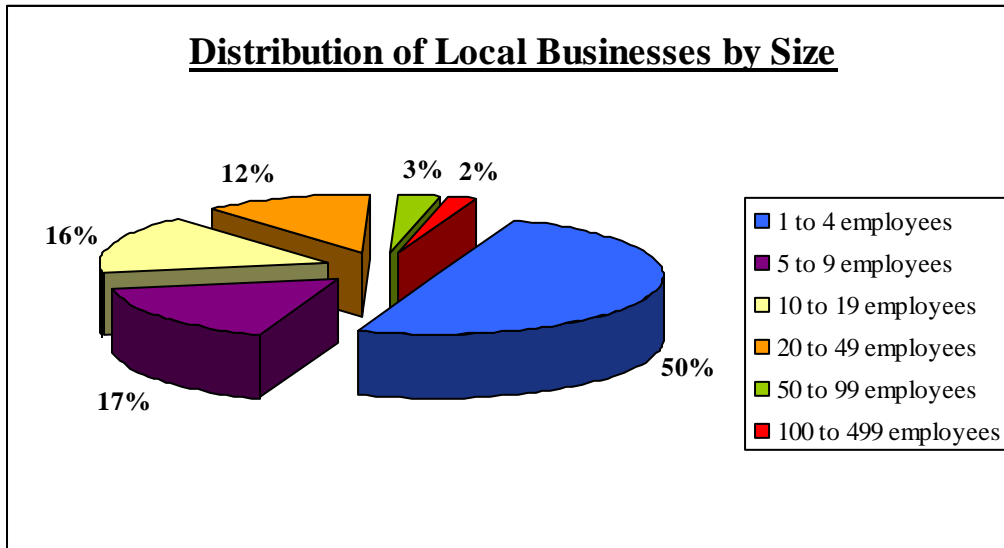


Figure 22 – Distribution of Businesses Located in GrandWalk by Size

In the previous years, one of the largest companies located in GrandWalk was the Lear Corporation. It was specialized in the production of automobile interior components including trim, seats, and electronics. It is currently ranked 127 on the 2006 Fortune 500 list of companies and the sixth largest company in the country that produces motor vehicles and parts. Even though in 2006 the company had \$17,089.2 million in revenues, the revenues decreased between 2005 and 2006 by 8.1%. In 2005, the company closed its GrandWalk branch, which previously employed over 400 people.

The 41 acre site formerly occupied by Lear Corporation is the oldest industrial area in the City of Walker. Presently, the interior of the building is well maintained and very few improvements should be needed before it can be reused. The building has high redevelopment potential because it lends itself to everything from heavy manufacturing to light assembly and even warehousing. Also, the building's proximity to downtown Grand Rapids, to major highways, and the infrastructure already in place are selling points.

In 2006, the building was bought by Grand Rapids-based Blue Bridge Ventures who divided the factory into smaller units and leased spaces to industrial companies. The company has had success in attracting businesses to relocate in the former Lear building. For example, in 2006 Amstore, a Coopersville-based company, which makes retail store shelving, displays and other equipment, leased 450,000 square feet of the former automotive parts plant. Even though the closing of Lear Corporation branch in Walker represented a great loss for the local economy, the local community is determined to support the redevelopment of site, by making "this site the anchor of economic revitalization and job creation in West Michigan", according to Walker mayor Robert VerHeulen.

Classification of Businesses Based on Sales Volumes

Figure 23 shows that in 2005 62.87% of companies had sales volume less than \$500,000. 13.38% of the businesses had sales volume between \$1,000,000 and \$1,999,999 and 13.38% had sales between \$2,000,000 and \$55,000,000.

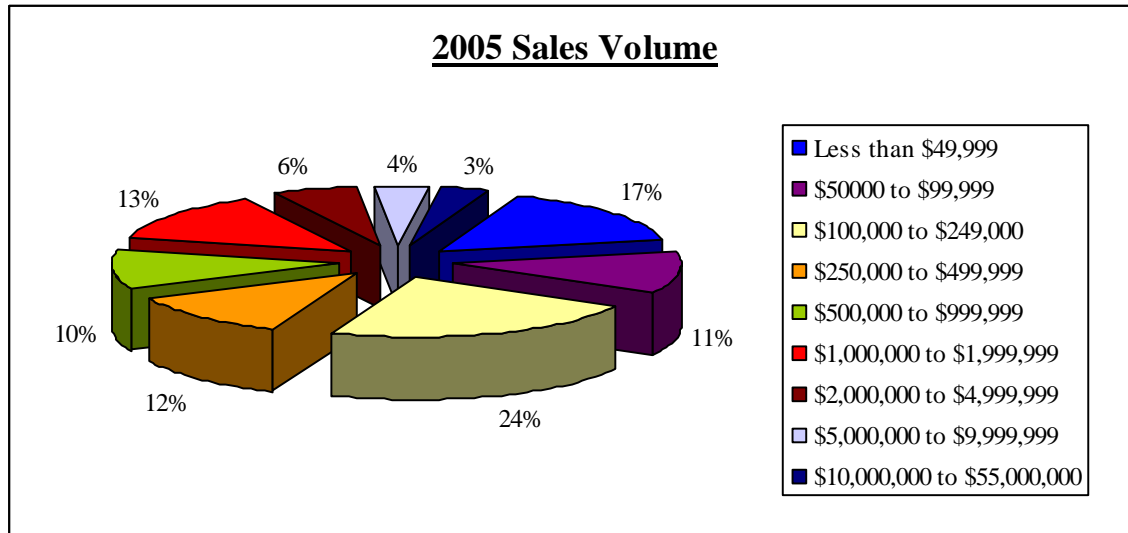


Figure 23 – 2005 Sale Volume of Businesses Located in GrandWalk

Companies with the biggest reported sales value are Haviland Enterprises Inc. (over \$50,000,000), Evans Tempco Inc. (approximately \$39,000,000), Williams Form Engineering Corp. (over \$35,000,000), Grand Rapids Foam Rubber Co. (over \$23,000,000), Refrigeration Engineering Inc. (over \$21,000,000), Trusco (approximately \$20,000,000), Ann Street Auto (approximately \$11,000,000), Victor S Barnes & Co. (approximately \$10,000,000), Jedco Inc. (approximately \$10,000,000). See Appendix A for additional information.

Haviland Enterprises distributes chemicals such as acids, alcohols, amines, chelating agents, lubricants, solvents, and surfactants. The company provides research and development as well as technical service to customers in the Midwestern US. Evans Tempcon Inc. produces heaters, ventilators and air conditioning. Williams Form Engineering Corporation is a leader in supplying concrete forming products for projects as dams, locks, bridges, and water and sewage treatment plants. Williams' products have been used on projects as Hoover and Shasta Dams in the west, most of the Lock and Dam projects along the Ohio River in the East, The Pentagon, and Michigan's Mackinac Bridge to name a few. The Grand Rapids Foam Rubber Co. produces foam products that are used in entertainment, transportation, medical equipment, and recreation. Trusco/Ginsan Industries, Inc. sells car wash systems. Anne Street Auto has sold pre-owned cars for over 35 years. Victor S Barnes & Co. is operating in wholesale lumber products company, while Jedco Inc. is specialized in the following processes: titanium hot forming, titanium super plastic forming, resistance/laser welding, roll, spin, bulge forming, laser drilling and machining, robotic plasma welding.

Classification of Business Based on Industrial Sector

GrandWalk area had approximately 4,983 jobs in 2005. As Figure 24 shows, the manufacturing sector comprised the largest share of employment in 2005 (1,769 jobs representing 36% of total number of jobs), followed by retail trade sector (626 jobs – 13%) and wholesale trade sector (562 jobs – 11%). The construction (455 jobs) and services (421 jobs) sectors represent smaller, but significant shares (9%, respective 8%) of the study area employment. The remaining sectors constitute 1,095 jobs, or 22% of the GrandWalk employment base.

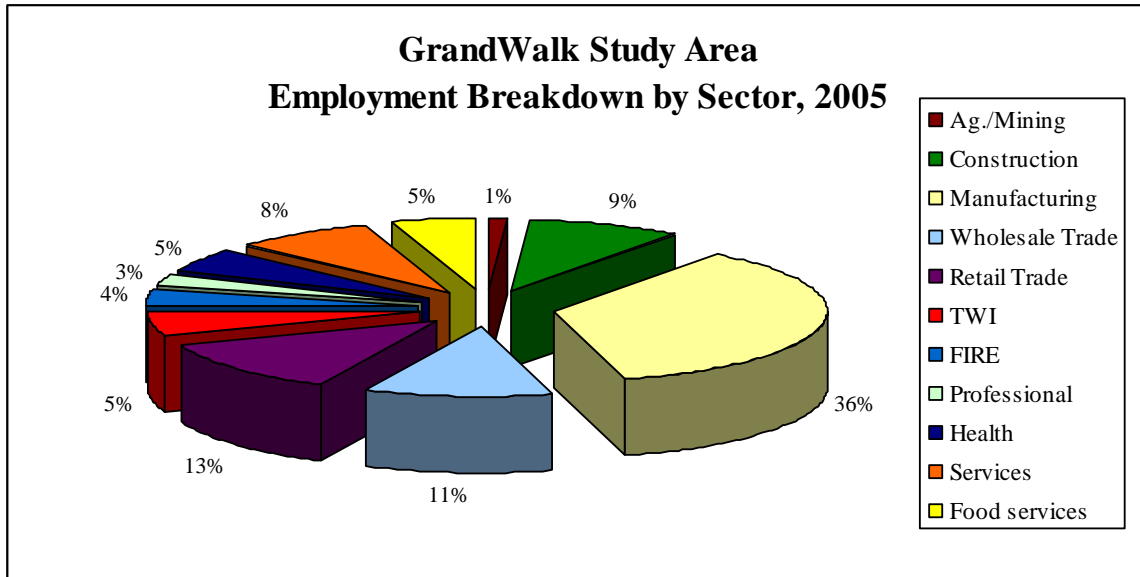


Figure 24 GrandWalk Breakdown by Industrial Sector (2002 NAICS Codes), 2005

Note: FIRE – Finance, Insurance & Real Estate

TWI – Transportation, Warehousing & Information & Utilities

In 2005, the GrandWalk economic base included 377 establishments. The services sector had 102 establishments which represent 24.7% of total number of businesses (Figure 25). The services sector includes data aggregated from the following: administrative, support and waste management services, educational services, arts, entertainment and recreation, accommodation and food services and other services sectors.

The next largest sector with 13.79% of the establishments is manufacturing sector, followed closely by the retail trade sector (47 businesses representing 12.46% of total number of establishments), the wholesale trade sector (44 representing 11.67%) and the construction sector (41 representing 10.87%).

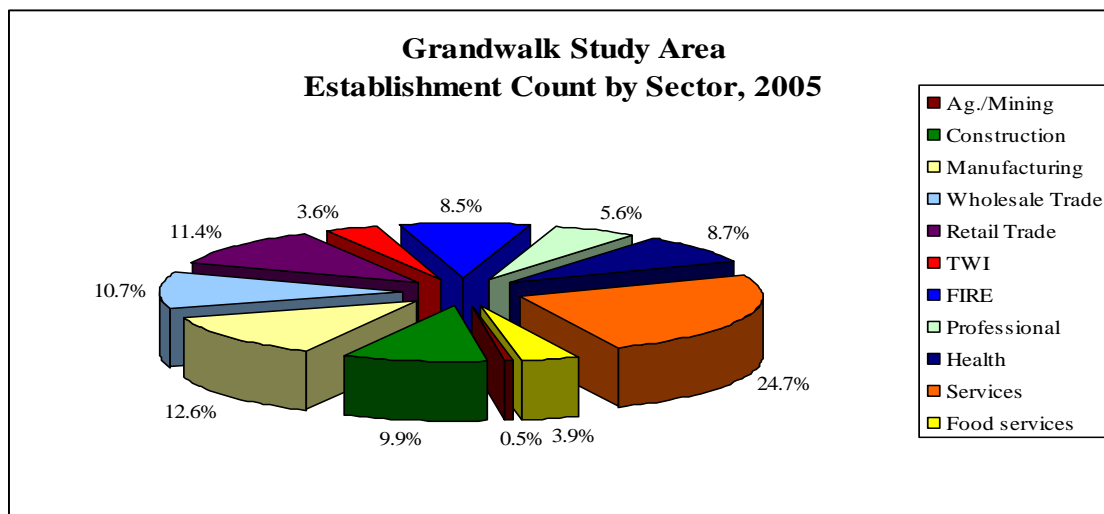


Figure 25 GrandWalk Establishment Count by Industrial Sector, 2005



Figure 26 shows total sales values for each of the sectors (when businesses did not disclose values, estimates were made.) The data show that the manufacturing sector has the highest sales values (\$186,512,205) and the highest number of employees (1,769). The wholesale trade sector shows the second highest sales value (\$137,700,346), followed by the construction sector (\$57,551,690).

Industrial Sector	Establishments	Sales Value	Employees
Agriculture, Forestry and Fisheries	1	\$1,200,000	45
Mining	1	\$1,400,000	10
Construction	41	\$57,551,690	455
Manufacturing	52	\$186,512,205	1,769
Wholesale Trade	44	\$137,700,346	562
Retail Trade	47	\$38,720,000	626
Transportation and Warehousing	8	\$5,647,000	178
Information	7	\$11,300,000	99
Finance and Insurance	17	\$3,334,000	106
Real Estate and Rental and Leasing	18	\$11,238,947	86
Professional, Scientific and Technical Services	23	\$8,057,000	131
Administrative, Support and Waste management and Remediation services	20	\$14,114,000	138
Educational Services	3	\$170,000	65
Health Care and Social Assistance	36	\$19,546,287	257
Arts, Entertainment and Recreation	8	\$4,644,000	66
Accommodation and Food Services	16	\$1,201,000	243
Other Services (without public administration)	35	\$6,451,000	152

Figure 26 – Number of establishments and employees by industrial sector (2005)

Major economic sectors

The analyses of industrial sectors present in GrandWalk show a diversified economy. As shown above, based on the number of establishments, the most developed industrial sectors are: manufacturing, retail trade, wholesale trade, construction, and health care and social assistance. Map 6 shows the location of major businesses classified by the major economic sectors. The following paragraphs describe in greater detail the activities of the major industrial sectors.

Construction

Two of the major companies located in GrandWalk operate in construction sector. These companies are engaged in developing real estate projects, especially construction of single family houses (Visser Brothers Inc.) and in performing more specific work, like air conditioning (Refrigeration Engineering Inc.). Other smaller companies are involved with pavement, electrical installation, warm heating, and the construction of swimming pools.



Manufacturing Sector

Figure 26 shows that, with regard to the number of establishments, employees and sales value, the manufacturing sector is the most developed industrial sector in GrandWalk. The highest number of major employers are concentrated in the manufacturing sector. They are engaged in the manufacturing of structural metal products, like tanks (Fuel Systems), steel foundries (Betz Industries), air conditioning, heating and refrigeration equipment (Evans Tempcon Inc.), production of laser welding, drilling, and cutting equipment (Laser Access), production of car washing machinery (Trusco) and dies (Die Ink Intl).

Until recently, the largest employer in GrandWalk was Lear Corporation which produces automobile interior components. As previously mentioned, in 2005 the company closed its GrandWalk branch and laid off more than 400 employees. Currently, the major employer is Evans Tempcon, Inc. In 2005 it employed 431 people and had a sales value of approximately \$39,000,000. For over half a century, Evans Tempcon, Inc. has produced heaters, ventilators and air conditioning for heavy duty trucks, recreational vehicles, agricultural equipment, and specialty body and construction equipment.

Other smaller manufacturing companies within GrandWalk produce special dies (Krieger Craftsmen Inc. and Matador Tool & Die Inc.), industrial machinery (plastics working machinery and concrete products machinery), furniture and conveying equipment (Frost Incorporated).

Wholesale Trade Sector

Businesses operating in wholesale trade sector represent 11.67% of all businesses located in GrandWalk. These companies commercialize either durable or non-durable goods. Some of the non-durable goods that are traded include chemicals (Haviland Enterprises Inc.), rubber foam, and sponges (Grand Rapids Foam Rubber Co.) Other companies selling non-durable goods are H&H Metal Source and Columbia Pipe & Supply which operate as metal centers. Durable goods that are traded by some of the major companies include semi finished metal products, such as pipes, metal equipment and supplies. One of the major employers, Williams Kitchen & Bath is specialized in wholesale distribution of household electrical appliances.

Retail Sector

The retail trade sector is the second largest economic sector in the study area, representing 12.46% of local economy. The major employer operating in the retail sector is the WS Reed Corporation. It is an office equipment dealer, specializing in designing digital technology. The Crystal Flash Corporation, specializing in trade fuel and fuel products, has its headquarters in the GrandWalk area. Another major retail employer is Home Depot, which sells building materials, hardware and garden supplies. Meijer is another retail business with a strong presence within GrandWalk.

Deconstruction and resale of auto parts is a dominant retail activity among local businesses. A significant number of companies are engaged in trading used cars or auto parts. Some of the well known names are: Baker Auto Parts, Padnos Louis Iron and Metal Co., Ann Street Auto, A-1 Electric, Auto City Salvage, Rapid Auto Sales & Detailing, B & D Auto Sales Inc. and Easy Russ Auto Salvage. Among these companies, Ann Street Auto Sales had the highest sales value in 2005 even though it employed only 6 people.



Insert Map 6 here
GrandWalk Business Map



Health Care and Social Assistance

Of the businesses located in GrandWalk, 9.55% provide health and social assistance services. A wide range of specialists opened offices in GrandWalk, such as physicians/surgeons, physical therapists, radiologists, orthodontists, dentists, chiropractors, paramedics or compensation and benefits planning consultants. Social and health services provided in GrandWalk range from foster homes, day care centers, child day care services, general and family offices, mental health clinics, rehabilitation centers, medical laboratories and general counseling services.

Kent County Head Start is a major employer in health and social assistance sector within GrandWalk. In 2005, it employed 200 people. In contrast, 86% of all the other health and social assistance businesses had less than 10 employees in 2005 and had none of these businesses had sales values above \$1,000,000.

Economic Base Analysis

Identifying major industrial sectors is the first step in identifying the development potential of local businesses. The next step is to identify the competitive position of local industries relative to the state economy. Limited access to data collected over a longer period of time restricts the number of economic analyses that can be performed for the GrandWalk area. Detailed information by Standard Industrial Classification or NAICS is not available at the city or smaller area level. Therefore, in part, the competitive positions of local industries are assumed to follow county trends even though differences among sub-areas may exist.

Methodology

First, a more general analysis of the 2001-2004 employment data at the county and state level was performed for each 2-digit NAICS codes. Then two analyses were conducted, a shift analyses and a location quotient. These were used to differentiate the performance of specific industrial sectors to better understand the businesses with the highest growth potential in GrandWalk. Both analyses were performed for each 3-digit NAICS code of businesses located in GrandWalk area.

Shift Analysis

2-Digit NAICS Codes Analysis between Kent Co. and the State of Michigan

Employment change between 2001 and 2004 indicates that the Kent County employment base shifted from a manufacturing focus to more service, health care and real estate and finance sectors (Figure 27). Simultaneously, the state economy shifted from the manufacturing sector toward educational and real estate sectors. Indeed, the manufacturing sector had the highest rate of decline at both county and state level, even though at county level, the rate of decline was slightly lower than state trends. Other industrial sectors that declined at both the state and county levels include mining, wholesale trade, retail trade and the information sector. Employment in the construction sector only slightly declined in Kent County, while the state rate of decline was higher.

Figure 27 shows that Kent County employment in several industrial sectors actually increased at a rate that was higher than at the state level, which indicates that Kent County has a competitive advantage in the following industrial sectors: educational services, health care and social assistance, administrative and waste services and finance and insurance.



Industrial sector	Kent County	Michigan
Mining	-7%	-2%
Construction	-0.35%	-3%
Manufacturing	-14.83%	-15%
Wholesale trade	-5%	-6%
Retail Trade	-4%	-3%
Information	-7%	-9%
Finance and insurance	8%	4%
Real estate and rental and leasing	14%	13%
Professional and technical services	1%	-4%
Administrative and waste services	13%	7%
Educational services	42%	18%
Health care and social assistance	11%	7%
Arts, entertainment, and recreation	1%	4%
Accommodation and food services	5%	3%
Other services, except public administration	2%	4%

Figure 27 – 2001 – 2004 Employment Change in Kent County and State of Michigan
U.S. Bureau of Economic Analysis

3-Digit NAICS Codes Analysis between Kent Co. and the State of Michigan

The previous analysis provides a general perspective of the Kent County's economy. However, to better understand the local GrandWalk economy a shift analysis was performed at a 3-Digit Code level. It is possible that data for some industrial sectors can be skewed by the rapid decline of some industrial sectors within a larger category. A good example of this is that in general the Michigan manufacturing is showing a rapid decline. This decline can largely be attributed to the auto industry alone, as it is declining at a higher rate than other manufacturing sectors. The auto industry decline drags down the manufacturing numbers for the entire category. Therefore, a more detailed analysis of the employment change for each industrial sector represented in GrandWalk was performed. Employment data were collected from County Business Patterns for 2003 and 2004 3-digit NAICS codes. A longer period of time would have indicated a more stable trend, but limited access to data that could be reported using the same NAICS code hindered our efforts. Additional future economic base analyses of GrandWalk businesses should analyze data over a longer time frame.

Manufacturing Sector

The analysis indicates that the Kent County has a strong competitive advantage in the wood product manufacturing sector, a traditional sector within the county. Other manufacturing sectors that grew at a higher rate than the state between 2003 and 2004 are paper manufacturing, nonmetallic mineral product manufacturing, and miscellaneous manufacturing.



<i>Industrial sector</i>	<i>County Growth</i>	<i>State Growth</i>
Wood Product Manufacturing	13.50%	1.20%
Paper Manufacturing	4.80%	-1.30%
Nonmetallic Mineral Product Manufacturing	15.30%	-8.60%
Miscellaneous Manufacturing	9.70%	-0.30%

Wholesale and Retail Trade Sectors

The employment in the wholesale trade sector declined between 2003 and 2004 at both a state and county level; however the rate of decline was slower at the county level than at the state level. The retail trade sector shows a competitive advantage in Kent County, especially in Clothing and Clothing Accessories Stores and Nonstore retail sectors. This means that retail employment in Kent County increased at a higher rate than employment at the state level. The following table shows other retail trade sectors that have grown between 2003 and 2004 at both the county and state level.

<i>Industrial sector</i>	<i>County Growth</i>	<i>State Growth</i>
Clothing and Clothing Accessories Stores	12.20%	5.70%
Nonstore Retailers	11.70%	-0.80%
Miscellaneous Store Retailers	5.60%	0.90%
Building Material and Garden Equipment and Supplies Dealers	5.00%	-0.20%
Food and Beverage Stores	2.80%	4.00%

All Other Sectors

Other than truck transportation, no other transportation sector has shown employment growth between 2003 and 2004. The following table shows that Kent County has a competitive advantage in rental and leasing services sectors, in amusement, gambling and recreation industries sector, personal and laundry services sector and financial investments. Even though the performing arts, spectator sports and related industries sector has a high rate of growth at county level, this industrial sector is declining at state level, indicating that it is unstable sector that may grow or decline within GrandWalk.



<i>Industrial sector</i>	<i>County Growth</i>	<i>State Growth</i>
Rental and Leasing Services	22.50%	0.30%
Performing Arts, Spectator Sports, and Related Industries	19.20%	-9.80%
Amusement, Gambling, and Recreation Industries	9.30%	1.40%
Personal and Laundry Services	9.00%	4.10%
Ambulatory Health Care Services	7.90%	8.00%
Securities, Commodity Contracts, and Other Financial Investments and Related Activities	7.10%	2.60%
Educational Services	6.90%	4.00%
Broadcasting (except Internet)	6.20%	-1.10%
Telecommunications	4.20%	-14.50%
Waste Management and Remediation Services	3.60%	-1.90%
Professional, Scientific, and Technical Services	2.20%	-1.80%
Social Assistance	2.00%	-1.30%

Shift Analysis Conclusions

This shift analysis shows that Kent County has a competitive advantage in these industrial sectors:

- Wood Product Manufacturing
- Clothing and Clothing Accessories Stores
- Nonstore Retailers
- Rental and Leasing Services
- Amusement, Gambling and Recreation Industries
- Securities, Commodity Contracts, and Other Financial Investments and Related Activities

The present analysis assumes that businesses in these industrial sectors that have a competitive advantage at a county level will also have a competitive advantage in GrandWalk.

Location-Quotient Analysis

A location-quotient analysis is used to compare levels of employment between two geographic areas in order to gauge the concentration of a particular good or service. This method assumes that a region is self sufficient if its rate of employment is proportional to the state's rate of employment for that industry. If the region's rate of employment is lower than the state's rate, the region is said to be producing less of that product and is therefore forced to import some of these products. If a region's rate of employment is greater than the state's rate, then the region is exporting some of its products. Any industry found to be exporting products is said to be "basic" (verses "non-basic") and is considered highly valuable for economic development. This economic base analysis has some limitations, one of which is that it assumes that the pattern of demand is uniform state-wide. This may not always be the case, however, since factors such as climate, local tradition, or custom can exert an influence on the demand for a specific product.

The location-quotient analysis performed compares the number of employees in GrandWalk with the number of employees in State of Michigan. The employment data were aggregated for each industrial sector for 3 digit NAICS codes. Based on the Location Quotient calculations, there are a



number of industrial sectors that have export potential and are considered to be “basic” industries that contribute to the economic growth of the study area.

Construction Sector

The location quotient analysis of GrandWalk businesses shows that 22 of its 56 industrial sectors have export potential. Within the construction sector, the heavy and civil engineering construction sector shows export capacity (approximately 66% of the industrial products are exported outside the study area). Another construction sector that is strong at local level is the specialty trade contractors sector, showing a 31% export capacity.

<i>Industrial sector</i>	<i>Export potential</i>
Heavy and Civil Engineering Construction	66%
Specialty Trade Contractors	31%

Manufacturing Sector

Within the manufacturing sector, petroleum and coal products manufacturing (86%), machinery manufacturing (77%), primary metal manufacturing (74%), transportation equipment manufacturing (36%), and apparel manufacturing (32%) all show a high percentage of export potential. Other manufacturing sectors including fabricated metal products and furniture/furniture related products, do not show as high a level of export potential.

<i>Industrial sector</i>	<i>Export potential</i>
Petroleum and Coal Products Manufacturing	86%
Machinery Manufacturing	77%
Primary Metal Manufacturing	74%
Transportation Equipment Manufacturing	36%
Apparel Manufacturing	32%
Fabricated Metal Product Manufacturing	24%
Furniture and Related Product Manufacturing	13%

Wholesale Sector

Within the wholesale sector, the sale of durable goods show a 55% export potential. The electronics and appliance stores sector sells 91% of their products to customers from outside the study area, while building materials and garden equipment and supplies dealers sell 50% of their products outside the study area.

<i>Industrial sector</i>	<i>Export potential</i>
Electronics and Appliance Stores	91%
Merchant Wholesalers, Durable Goods	55%
Building Material and Garden Equipment and Supplies Dealers	50%
Nonstore Retailers	58%



All Other Sectors

The transit and ground passenger transportation sector (74%) shows export potential. The information sectors such as picture and sound recording industries (85%) and other supportive informative services (84%) sell services outside the study area. Within real estate and rental and leasing sector, rental and leasing services sector show 51% export potential.

The waste management and remediation services sector indicates 52% export potential. Within education sector, 74% of educational services are offered to people from outside GrandWalk area. Other service sectors showing export capacity are performing arts (73%), repair and maintenance (12%), as well as religious, grant making, civic, professional and similar organizations (22%).

<i>Industrial sector</i>	<i>Export potential</i>
Motion Picture and Sound Recording Industries	85%
Other Information Services	84%
Educational Services	74%
Performing Arts, Spectator Sports, and Related Industries	73%
Waste Management and Remediation Services	52%
Rental and Leasing Services	51%
Religious, Grant making, Civic, Professional, and Similar Organizations	22%
Repair and Maintenance	12%

Shift Share and Location Quotient Conclusions

Results from both the shift analysis and the location-quotient analysis show those industrial sectors that are the strong in GrandWalk and those that are growing at both the state and county levels.

These sectors are:

- Building Material and Garden Equipment and Supplies Dealers
- Nonstore Retailers
- Educational Services
- Performing Arts
- Spectator Sports and Related Industries
- Waste Management and Remediation Services
- Rental and Leasing Services.

While this list is not completely comprehensive due to limited data availability, it represents those types of industries that are likely to grow in GrandWalk.

Several other industrial sectors do have a competitive advantage in GrandWalk, but they are declining at county level. For example, some manufacturing sectors show employment declines at the county and state levels and therefore do not have a competitive position in the study area. Still, the manufacturing sector has the largest sales values and the largest number of employees in GrandWalk. Also, the manufacturing sector is one of the industrial sectors that has some of the oldest businesses established in the study area.

According to POLK reports, the oldest business still active in GrandWalk is Leitelt Iron Works, established in 1862. It is a small business that designs and builds special machinery. Another large



manufacturing employer in GrandWalk, Evans Tempco, was established in 1917, and Frost Inc. was also established in 1913. Another active manufacturing business that opened in GrandWalk 70 years ago is Betz Industries and Fuel Systems. This long history of some GrandWalk manufacturing business indicates stability over a long period of time; and these long established businesses may prevent the economic decline of the study area.

The merchant wholesalers, durable goods sector indicates export potential in GrandWalk, but at county and State level this sector is declining. The analyses of the year when these businesses were established indicate that major employers such as Haviland Enterprises Inc., Grand Rapids Foam Rubber Co. and Stehouwer's Frozen Foods have been doing businesses in GrandWalk area for more than 50 years. Williams Kitchen and Bath was established in 1970. After 1998, other several other important employers in wholesale trade sector moved in GrandWalk, such as H&H Metal Source, Columbia Pipe & Supply and Amiral Petroleum.

In the mid-late 1980s, the composition of the local economy began to change from a mix of manufacturing, construction, wholesale and retail trade sectors to attract more businesses in the service sector. Businesses that provide services in the transportation and warehousing sector, professional, scientific and technical services and finance and insurance sectors were established after 1984. Businesses in information sector began operating in the GrandWalk area approximately 10 years ago.

This brief analysis attempts to indicate that businesses in some industrial sectors within GrandWalk were stable for a long period even though, overall, the respective industrial sectors declined. Additional economic base analyses should be performed to identify the development trends of the businesses in those industrial sectors that are unstable.

Financial Incentives for Economic Redevelopment in GrandWalk

Changes in the industrial sector and global capitalism have had an impact on the GrandWalk economy. As previously mentioned, several major employers such as General Motors and Lear Corporation closed their GrandWalk branches. Furthermore, the concentration of manufacturing activity in this area and the presence of several salvage yards have contributed to the contamination of the area over time. Therefore, the City of Grand Rapids had a small area of GrandWalk designated as a Renaissance Zone (See Appendix B) as part of larger program started by the city in January 1 1997. The 15 year Renaissance Zone program aims to stimulate investment and the creation of new jobs in designated areas of the city. This program waives almost all state and local taxes for businesses and residents, such as: Michigan Single Business Tax, Michigan Personal Income Tax, Operating Property Tax and City Income Tax. According to the City of Grand Rapids' web site, since the program started in 1997, 800 properties were designated as Renaissance Zones and the total investment is \$251,000,000. The Grand Rapids' Renaissance Zone program has become the most successful in Michigan.

Implications of the Business Profile for GrandWalk Trail Development

The business profile indicates that the majority of businesses located in the study area are 'small businesses,' with a large number of them operating in the manufacturing, construction, wholesale trade and retail trade sectors. The food and accommodation sector is represented mainly by chain restaurants, although no restaurants or specialty shops are located along the proposed GrandWalk



trail. The trail would create a demand on the market for these types of economic activities and other tourist oriented services.

The Radisson Hotel located in GrandWalk represents a strength of the area that can be marketed to potential trail users who might like to spend more time in the area and to explore other area attractions.

Another asset of the area is the DeltaPlex Entertainment & Expo Center, which is located on Turner Ave. within GrandWalk area boundaries. The Deltaplex operates a theater building where concerts, basketball games, exhibitions and meetings are organized. As their event schedule for the first part of the year 2007 shows, a large number of events are going to be organized there. Even though the GrandWalk area does not offer other entertainment attractions itself, its proximity to downtown Grand Rapids and Walker represents a great opportunity for potential trail tourists.

The proposed trail itself and trail tourism related ventures within GrandWalk are both threatened by the large concentration of salvage yards in the area, many of which are adjacent to the trail. The owners of these businesses may oppose the development of the trail because of liability concerns from trail user injury and also potential cleanup costs associated with probable contamination of the soil. These potential threats to building the trail can, for the most part, be addressed. Section V of this report examines the legal provisions with regard to the property owner liability when a trail crosses his/her property. It is shown that fortunately, with the establishment of an official municipal trail, liability risks to adjacent landowners will not increase. Even though these businesses do not offer a pleasant view to the trail users, landscape decorations can be built to block the view to these yards. Depending on the level of contamination, area soil can be capped by covering with a built surface. Also, contamination can be reduced by planting different types of vegetation along the trail that would absorb the contaminated substances from the soil.

The number of economic activities that the proposed GrandWalk trail alone can generate is limited and other economic redevelopment programs should be created simultaneously to stimulate area revitalization. Beyond the businesses that may be generated or the anticipated tourism, the primary benefit of the trail is the improvement of the living conditions and the quality of life for GrandWalk residents, and the trail's contribution to sustainable development in the area.



Land and Infrastructure Surrounding the GrandWalk Trail

The proposed GrandWalk trail would follow an abandoned rail corridor alongside Indian Mill Creek for much of the route. The corridor, once an east-west spur of the Grand Rapids and Indiana Railroad, remains largely intact with much of the grading visible despite years of abandonment. The easternmost beginning point of the proposed trail path would begin at the intersection of Riverside Park and Ann Street and proceed west along Ann Street before crossing to the south side of Indian Mill Creek over a pedestrian bridge. (See the Recommendations Section for details on the proposed layout.) From that point onward, the abandoned rail corridor would be used as a trail bed before reaching the westernmost boundary of the study area at Bristol Ave. For much of this proposed route the abandoned rail-bed trail hugs Indian Mill Creek, providing an interesting naturally wooded area in contrast to the surrounding land uses.

The abandoned corridor is bordered by industrial uses to the north, while south of the trail about half-way through the study area, residential uses are observable. Nearly the entire length of the GrandWalk trail within the study area, or approximately 1.9 miles, is zoned heavy industrial or industrial, as shaded in the blue on Map 7. The industry surrounding the corridor and proposed trail path consists mainly of automotive recycling and salvaging. While the parcels on the north and parallel to much of the length of the proposed trail are all industrial in nature, east of Riverside Park and to the south of the proposed trailway are established residential neighborhoods.

In addition to the creek, the proposed trail route would touch two major parks: Riverside and Richmond. Riverside Park is approximately one mile from downtown Grand Rapids and offers more than 200 acres of hiking trails, waterside paths, vistas, and natural areas. The northernmost point of Riverside park is also just yards from the White Pine trailhead, a 94 mile trail that links Comstock Park to Cadillac Michigan. Richmond Park is 250 acres of beautiful natural environment within the city that boasts both a pool and a public picnic pavilion. See Map 8. Furthermore, there are three schools within or near to the GrandWalk study area: Fairview Elementary School, Harrison School, and West Catholic High School. These schools represent existing public facilities that could be enhanced by access to recreation and transportation.

The proposed GrandWalk Trail would provide a much needed route to traverse the northwest area of Grand Rapids without relying on an automobile. One could walk or bike the trail from Bristol in Walker to the Grand River in Grand Rapids, between two primary local communities. The proposed trail could also be linked with existing public transit routes. The Rapid bus system currently has a bus route that travels north on Alpine through the GrandWalk study area, and there is a proposed bus rapid transit line for the Alpine corridor. The Rapid also operates a bus route near the southern edge of Riverside Park along Monroe on the east side of the river.



Insert Map 7 here
GrandWalk Zoning



Insert Map 8 here
Existing Recreation Areas and Schools



Implications of Community Profile for the Development of the Trail

As indicated by the socio-economic profile, the GrandWalk area has a stable neighborhood that offers a good environment for its residents. The City of Walker in particular is perceived as being a pleasant community to live in as it attracts a growing number of people of all ages and levels of education. In fact, based on the reference areas examined, area population continues to increase, including GrandWalk. In this context, a trail would represent a good recreational opportunity, for people of all ages, particularly children, as well as enhancing a natural resource, providing transportation connections, economic benefits, and even health benefits to its residents.

Recreational Opportunities

The GrandWalk area currently offers very few recreational activities that residents have easy access to. The median household income is low compared with the City of Grand Rapids, the City of Walker, Kent County and the State of Michigan. It might then be assumed that GrandWalk residents do not have the disposable income to spend on distant recreational opportunities. They would likely appreciate affordable activities that are close to home. The proposed GrandWalk trail would offer just such an opportunity. The proposed trail would greatly enhance pedestrian access to both Riverside Park and the much under-utilized Richmond Park, while serving as a recreational opportunity in and of itself. Jogging, biking, rollerblading, and nature walks along the proposed path as well as sports and other activities at both of these major parks are anticipated to increase with trail development.

Benefits for Children

There are over 103,000 children and youth below the age of 19 in the Cities of Grand Rapids, Walker, and the GrandWalk boundaries, combined. GrandWalk alone has over 2,400 young people within its boundaries. Four group foster homes are located in GrandWalk area, along with two day child care facilities and an elementary school. Two other schools, West Catholic High School and Harrison, would also both be likely to be serviced by the proposed trail. (See Map 8) These young people would benefit greatly from the increased recreational opportunities that the proposed trail would offer. They might also find educational opportunities along the trail. Informative signage can be placed at intervals on the path to provide history about the Native American tribes that once populated the area, how they lived, their economic activities, especially the lumber mills that were erected along Indian Mill Creek. The granite mill grinding stones that were used in the first mill built on Indian Mill Creek are currently in front of the Public Museum of Grand Rapids. These historic pieces could even be brought back and displayed at their original resting point on the trail along with information about the economic conditions of that period.

Children that live in the south-east part of the study area, near Richmond Park, could use part of the proposed trail to get to Alpine Avenue and from there to Fairview Elementary School. In the future, a “safe route to school” program, as discussed in the policy section, could be implemented to further connect residential areas with schools.

Enhancement of Natural Resources

Indian Mill Creek is a unique natural resource for GrandWalk and the City of Walker. It has a strong population of salmon that spawn in the watershed. Additionally, the creek offers wonderful views that a creative trail design could take advantage of. Informative signs about surrounding vegetation, birds, fish and animals that in the creek watershed could be placed along the trail providing an opportunity for visitors to learn more about the surrounding natural environment. The



proximity of the creek to highly urbanized areas, as a relatively secluded and unappreciated asset, only increases the value of this natural resource. The introduction of a trail such as this may be an important tool for preserving Indian Mill Creek as an ecological asset, potentially even attracting wildlife, such as migrating butterflies to the area. Increased awareness of the creek, through trail development, could also improve local group efforts to improve water management systems in the area that control for sediment and chemicals that damage wildlife. Moreover, the juxtaposition of the winding creek within a highly industrial area further emphasizes the importance of sustainability and protection of natural resources.

Transportation Connections

An important factor for trail development is connecting users with destination points. The obvious destinations for the proposed trail are area parks. The proposed GrandWalk trail is designed to connect the Riverside Park on the east to Richmond Park on the west. Richmond Park offers resources such as a swimming pool, playground, and picnic tables along with a sliding hill for winter sports. It is an important community asset that would be made more accessible with the addition of a trail. The trail, as discussed above, could also serve as a valuable connecting route for school-children, offering them a non-motorized alternative route to school.

Another potential trail destination could be employment areas. Figure 28 indicates that approximately 15.84% of people living in GrandWalk drive less than 10 minutes to their place of employment. This means that their home is within a walkable distance to their job. These workers may represent potential users of the trail. Although the number of people that walk or bicycle to work nationwide is relatively low, non-motorized transportation opportunities, such as the proposed trail, could serve as an important alternative to the traditional commute.

Incorporating non-motorized travel with the existing Rapid bus routes in the area could be another potential role of the trail. Serving as a basic transportation connection for those who rely on public transportation, and as a recreational detour for public transit users, the proposed trail could be a primary connector in GrandWalk. (See Appendix C)

Block Group, Census Tract	Nr. of people who travel less than 10 minutes to work	Percentage out of total working population	Nr. of people who walk to work	Nr. of people who bicycle to work
BG 1, CT 7	36	9.38%	0	0
BG 1, CT 8	56	7.55%	17	11
BG 2, CT 8	66	19.24%	35	0
BG 1, CT 115	248	23.40%	0	0
BG 2, CT 115	284	20.34%	19	11
BG 3, CT 115	88	15.15%	8	0
Total GrandWalk	778	15.84%	79	22

Figure 28 – No. of GrandWalk residents that drive under 10 minutes, walk, or bicycle to work 2000 U.S. Census



Economic Benefits

Evidence suggests that trails provide significant economic benefits for local businesses. Benefits emerge in the form of expenditures by trail users. A limited variety of restaurants, retail stores and bars are located in GrandWalk area, but an increased number of trail users, including tourists, could attract small businesses to serve new trail customers.

The local economy is dominated by small and medium sized businesses that mainly operate in industrial sectors that are struggling at state and county level. Data show that the entertainment and recreation sector is growing slightly in Michigan. Recent trends in recreation and tourism indicate a strong interest in recreational activities that respect the natural and cultural environments and offer educational opportunities.

The GrandWalk area could take advantage of the trail to help diversify its local economy. The Radisson Hotel for conventions along with the DeltaPlex Theater, known for its concerts, exhibitions and basketball games, could work in conjunction to further enhance area tourism potential. The GrandWalk trail, in combination with these existing GrandWalk assets and tourism potential, could be used as a tool for urban revitalization of the entire area, as indicated in the GrandWalk Handbook. Bike and other equipment rental stores, souvenir and map shops, additional food service providers, and lodging would all be highly desired businesses in GrandWalk if the proposed trail plan were implemented. These expanded business opportunities would be augmented by the increased employment for trail construction and maintenance workers. Additionally, the trail amenity could be used to attract companies whose workers expect quality recreation and other urban amenities.

Health Benefits

People are more interested in staying healthy through active recreational pursuits. Another trend is an increased interest in alternative modes of transportation including walking and cycling, both of which are well served by integrated trail systems.

Obesity

Empirical evidence has found obesity to be a catalyst for illness due to its negative effects: high blood pressure, high cholesterol, type 2 diabetes, stroke, gallbladder disease, arthritis, breathing problems, and certain types of cancer. The American Journal of Public Health believes, "the current obesity epidemic has many causes, but there is an association between urban sprawl and obesity" (Lopez, 2004). Researchers for the University of Detroit Mercy, believe that "if everyone in Michigan walked 0.8 miles per day, or 30 minutes, they would lose five pounds each and obesity would drop by 25% in the state" (Hoback, 2004). Social Change increasing obesity also includes the, "reduction in the amount of physical education and recreation time for children" (Arroyo, 2007).

A Behavioral Risk Factor survey conducted by the Kent County Health Department states: "Although respondents in Kent County showed a lower percentage of obesity than the state and nation as a whole, the 2002 survey results suggest the county is not immune to the increasing trend of obesity that is seen nationwide. The prevalence of obesity in Kent County was 17.0% +/- 3.1% in the 1993 versus 19.6% +/- 2.3% in 2002" (BFRS, 2002).

As Kent County is relatively less obese than the aggregate state and nation, it is important for the County to maintain its comparative advantage and take efforts to curtail obesity. Physical activity is



the method by which trailways can curb obesity.

Physical Activity

Physical activity also decreases other health risks such as heart disease, diabetes, and decreases the chances of developing colon cancer. Physical Activity also is widely known to increase muscle and bone strength, especially among elders. "Data from the 2002 BRFSS for Kent County indicate that we are heading in the right direction. The proportion of respondents indicating no physical activity decreased from 29.5% +/- 3.6% in 1993 to 20.3% +/- 2.3% in 2002. These data also indicate that Kent County residents are more active than the state (24.3% non-active) and nation (24.4% non-active) as a whole" (BRFS, 2002). The GrandWalk trail is part of an important proposal that could increase physical activity as a means of producing a less obese, healthier community.



IV. Master Plan and Policy Analysis

Overview of Policy Implications for the Trail

The rationale for the proposed GrandWalk trail is that of connectivity; the aspects depend upon planning and policy from all levels of government. The City of Grand Rapids has a stake in the GrandWalk trail with regard to increasing non-motorized transportation as well as recreational benefits that accompany non-motorized connections. The City of Walker's Park & Recreation plan explicitly calls for connecting the Musketawa and White Pine trails through the area. Additionally the Walker Master Plan calls for enhancement of neighborhood connectivity and increasing "livability." Kent County's United Growth Coalition also recognizes connectivity as central for appropriate land-use, while the Kent County Parks department is updating their efforts relating to recreation. The West Michigan Strategic Alliance and the West Michigan Trails and Greenways Coalition both have made significant strides towards growing green infrastructure in the area. Lastly, at both the State and Federal levels there are well documented policies that relate to non-motorized transportation, land-use, and funding. Significant policies are highlighted in the following text with special regard to the GrandWalk trail.

City of Grand Rapids

Grand Rapids Park and Recreation Plan

The Grand Rapids Park and Recreation Plan was developed in conjunction with the most recent city-wide Master Plan. The Recreation Plan is a 5-year working Plan adopted in 2007, with yearly updates. The majority of the plan is text that "provides the rationale and backbone for the goals, guidelines and recommended capital improvements based on an analysis and consideration of many elements" (Rec Plan, 2007).

According to a study done in 2000 on the recreation trends of which people participated in at least once and awhile, walking exercise was the number one activity recorded, with 86.3 million people nationwide participating in (Rec Plan, 2007). Trails provide an excellent opportunity for people to enjoy exercise through walking while interacting with their greater parks system. See Map 9.

This interaction with the greater parks system is one aspect of the Park and Recreation Plan goal of connectivity. Those goals from the Park and Recreation Plan pertaining to GrandWalk are as follows:

- Increase walkability within the community to assist in the City of Grand Rapids master plan goal to provide balanced transportation opportunities.
- Work with local county, regional, and state agencies to ensure the connectivity of the City to adjacent communities, the county, and region.
- Assist in the City of Grand Rapids master plan goal to provide transportation alternatives that are convenient and affordable.
- Prepare a plan to guide the development of efficient and pleasant City-wide pedestrian and bike routes that connect neighborhoods and link them to business districts, parks, schools, churches, and transit routes.
- Develop a connected greenway system that protects natural features; provides habitat corridors; connects neighborhoods, parks, and open space, and links to regional and state trail systems. (Rec Plan, 2007)



The overall Park and Recreation plan objective to encourage connectivity and alternative transportation indicates the compatibility of non-motorized trail development like the GrandWalk Trail.

Additionally, The Grand Valley Metropolitan Council (GVMC) update to the Pedestrian Plan and Bicycle Plan done in the mid-nineties outlines the following recommendations to improve community walkability:

- Each government unit should set its own standards for walkability
- New developments should establish good walkability
- All ordinances should include specific language related to pedestrian access
- Local planning commissions should establish and adopt pedestrian plans
- Traffic calming and other pedestrian friendly ideas should be implemented

Once again, area plans indicate that walkability is at the forefront of the vision for the future of Grand Rapids. Unfortunately, despite overwhelming agreement over walkability, no standards or ordinances have been codified, indicating a need for locally produced pedestrian plans that are in conjunction with all local Parks and Recreation department plans.



Figure 29 – Kent County Major Trails (proposed trails are dashed)
The GrandWalk trail is depicted by the dashed portion of the Musketawa Trail.

City of Grand Rapids Master Plan

In 2001 guiding principles were established for use in creating the current updated 2002 City of Grand Rapids Master Plan. The following four principles are of key importance to the GrandWalk study area and GrandWalk trail:

- **Economic Health:** To understand that our City's ability to attract and retain business, jobs, and households is the economic engine that drives investment in new development and the



improvement and re-use of older areas of the City. Our City's economic health also determines our fiscal capacity to provide public investments and quality public services. To recognize the importance of broadening access to economic opportunity for all our citizens.

- **Balance:** To recognize the importance of maintaining a balance between economic (and job) growth, neighborhood preservation and environmental stewardship. To be committed to protecting and improving the valued characteristics of our Central City while encouraging change that will make the best use of vacant and under-used land and buildings. To support a balanced transportation system that offers attractive alternatives to automobile use
- **Access:** To be committed to creating a pedestrian-friendly City that also provides convenient connections over longer distances. To support transit, but also quality road systems that minimizes negative traffic impacts. To manage parking so that its impact on the pedestrian scale and visual quality of our City is minimized.
- **Sustainability:** To care about the environment and the availability of resources for future generations. The choices we make will protect natural resources. (Master Plan, 2002)

From these guidelines the Master Plan was organized around seven themes, of which the following four are relevant to GrandWalk:

- *Great Neighborhoods* - are the foundation of a great city; they are the physical and social expression of community. Grand Rapids' citizens are concerned about the physical quality of their neighborhoods- including open space
- *Balanced Transportation* - Grand Rapids' citizens support the coordination of transportation and land use decisions to reduce dependence on the automobile, provide choice in travel modes, and to balance the need for automobile and truck access with the long term objective of improving transit, making streets more walkable, and creating a system of bike routes.
- *A City that Enriches Our Lives* - The quality of life in Grand Rapids plays an important role in determining whether people will chose to live, shop, work and spend leisure time in the city.
- *A City in Balance with Nature* - People in the City of Grand Rapids support planning approaches that protect natural resources, capitalize on existing infrastructure and honor the principles of Smart Growth.(Master Plan, 2002)

With regard to the GrandWalk trail, the theme of Balanced Transportation is particularly relevant. The citizens of Grand Rapids have expressed through creation of their Master Plan document a desire to reduce dependence upon the automobile; they want a high quality of life that preserves natural areas and space while increasing mobility. The GrandWalk trail, if realized, would be another step towards their established principles and themes.

City of Walker

City of Walker Park and Recreation Master Plan

The City of Walker Park and Recreation Plan is a guide for the future development of recreation opportunities for the residents and visitors of the City. The plan addresses current recreation issues and identifies future needs of the community and the means for meeting those needs over the next five years. In addition, the plan serves as an educational tool to acquaint local officials and residents of the need for a sound and balanced recreation program (Walker Park & Rec. Plan, 2004.)



The plan inventories the current recreation facilities, pinpoints recreational deficiencies, and lists goals and objectives. Many factors, such as population, economic development, and physiographic aspects of the area, were incorporated into the development of the plan.

The City of Walker currently has limited bicycle/walking trails within the City, although there are a number of important trail systems in close proximity. The City of Walker is committed to developing a pedestrian/bicycle trail system with a view to connecting residential areas with schools and parks, and with other established trails in the region, such as the Musketawa Trail, White Pine Trail and Kent Trail System. This is a mission that is strongly supported by the Friends of the Walker Highland Trails, a non-profit group of outdoor enthusiasts who have produced a Master Plan to promote the establishment and development of the trail system. This planned development of the trail system needs to be continued to promote a safe, environmentally sound mode of transport, as well as an important recreational resource. (Walker Park & Rec. Plan, 2004) The GrandWalk trail would greatly improve the City of Walker's connectivity and nonmotorized facilities.

White Pine Trail Connector

One of the primary trails described in the Walker Parks and Rec. Master Plan is the White Pine Trail Connector. Within Walker jurisdiction, this trail is approximately ¼ mile of pavement that connects West River Drive and the North Park Bridge. This connection essentially establishes a link between the White Pine Trail (extending north through Rockford and into Cadillac) and the Riverside Park in Grand Rapids. This terminating point of the White Pine trail is home to a trail head that provides parking and access. The GrandWalk trail could capitalize on the connectivity with Riverside Park, across Ann Street and into the GrandWalk study area. (See Figure 29)

Musketawa Trail

Located in Wright Township, the Musketawa Trail is a paved intermittent trail to connect Muskegon to Walker. Notice the inclusion, as proposed in the Trailway System, of the GrandWalk trail; and its relationship to the aforementioned trails. See Appendix D for the Walker Master Trail Layout.

Walker's proximity to Grand Rapids parks and other state parks in the region offer additional recreation chances for its citizens. See Appendix E for the Walker Parks Map and Appendix F for the Walker Parks and Recreation Map.

Goals and Objectives

The City of Walker has developed the following goals and objectives pertaining to parks and recreation, and therefore to the proposed GrandWalk trail:

- Provide year-round recreation facilities and programs in sufficient quantity and type, to provide opportunities for individuals of all age groups and abilities to meet the present and future needs of Walker residents. Create spaces at Community Park for youth rollerblading group play (such as hockey), as well as trail systems compatible with rollerblading use.
- Provide a geographically balanced system of park and recreation facilities in the city.
- Enhance communication among city commission, administration, GVMC, Kent County, while promoting and maintaining strong working relationships of coordination and support



with all community schools and governmental agencies that provide recreational opportunities for city and school district residents

- Preserve flood plain areas of the Grand River as open space for the benefit and enjoyment of future generations. Cooperate with Kent County on developing and connecting Walker Highland Trail to Johnson Park and Millennium Park.
- Strive to connect recreation facilities to schools and residential areas with non-motorized trails providing safe, pleasant and satisfying recreation experiences. Improve pedestrian and non-motorized trails as links between recreation, residential areas, and parks. Investigate the potential of current park lands and future park parcels for nonmotorized trail usage. Obtain connections with other regional facilities. Support city sidewalk master plan.
- Develop and maintain a non-motorized trail system within the city of walker, interconnecting with established trails such as the Musketawa trail, White Pine trail, and Kent Trails systems, providing recreation and alternative routes throughout Western Michigan.
- Develop, enhance and maintain the Grand Walk Linear Park, South Standale Trail and Walker Highland Trail and promote the establishment and development of the trail hub system.
- Acquire additional land for the trail system connections.
- Utilize abandoned railroad corridors and Consumer's Energy utility lines for trail connections.
- Coordinate with other trail groups, foundations, and local, state, and federal government units.
- Develop previously acquired land for the trail system for a Walker connection to the Musketawa Trail, White Pine Trail and Kent Trails. (Walker Park & Rec. Plan, 2004)

The trail deficiencies, and goals and objectives are aspects of the Plan which are of great significance to a GrandWalk trail. The overall desire for a system of interconnected trails (specifically linking the Musketawa and White Pine trails), as well as the desire for multi-modal transportation and increased recreation are things which may be achieved by realizing the GrandWalk trail. See Appendix G for City of Walker Proposed Capital Improvement Schedule.

City of Walker Master Plan

The City of Walker Master Plan is based upon the assumption that a community-wide consensus on goals must be in place before realistic plans for the future can be prepared. The major issues and desires of Walker are explicit in the Vision for the City of Walker:

The City of Walker will be a community with a distinct identity, forged through a strong sense of neighborhood and family; a planned, balanced use of land considering the needs of



residents and businesses; and firm ties between its people and government. (Walker Master Plan, 1998)

The following goals with relevance to the proposed GrandWalk trail were produced through focus groups and residents input:

Neighborhoods and Families

The City and residents of Walker will work together to develop strategies to maintain the positive features and character of its neighborhoods. These may include such activities as road maintenance, upkeep of homes, preserving trees and other natural features, and other similar efforts. The City of Walker will promote safer neighborhoods by assisting neighborhood organizations and encouraging more interaction between neighborhood residents. The City will work with neighborhoods and other community organizations to promote structured programs for all age groups to encourage recreation and interaction between residents.

City-Resident Communication

The Master Plan for the City of Walker will be citizen based with emphasis on neighborhoods. The Plan will be a document upon which the people of the city may rely. The Master Plan will be kept current and consistently followed by the Planning and City Commissions. The City of Walker will promote community involvement by assisting in the organization of neighborhood and business associations and encouraging more interaction between neighborhood residents. The City will provide regular communication at the ward level between City Commissioners and neighborhood and business associations. The City of Walker will promote the widest possible awareness of projects and issues that will affect the entire community. (Walker Master Plan, 1998)

All of these goals strive to connect and improve the current neighborhood stock. As the proposed GrandWalk trail would traverse residential areas, this goal of connectivity and creating social capital may be achieved. Walker has deemed the term "Living Neighborhoods" relating to these issues. This term represents liveliness of neighborhoods as well as support and maintenance.

Characteristics of Living Neighborhoods

"Living Neighborhoods" is one in which its residents live with a sense of community, safety, and security. These neighborhoods have common characteristics which provide the necessary critical mass for support and continuity. The characteristics described below are those of an ideal neighborhood, which is rarely achieved. However, it is possible to examine existing or proposed neighborhoods to see what, if any, obstacles might be overcome to get closer to this ideal." (Walker Master Plan, 1998)

Of the context of "Living Neighborhood", the following are of significance to the GrandWalk proposed trail:

Open Space

The Neighborhood should provide, or have easy access to, open space that is usable, or preserves valuable natural features. The open space may also have a function within the Neighborhood, i.e., separates different land uses, etc.



Pedestrian Links

The Neighborhood should have links between attractors, such as adjoining shopping areas, open spaces, and other features. Such links need not follow street systems.

Walkability

The Neighborhood should be sufficiently compact to promote walking between features by ensuring proper security, separation from vehicles, and attractiveness. Features requiring access by all areas should be located within a reasonable distance of residential areas.

Green Spaces

Green, or open, spaces come in many forms and varieties, from lawns to parks to vacant fields. Some open space is formal, owned and maintained for the purpose of providing a place for recreation and enjoyment of all. Other open space adds visual distraction, such as landscaping for businesses and institutions. Still others are provided by private property owners for their own enjoyment. In an urban environment, open space is highly valued as a means to ease the view of hard surfaces, such as parking lots, buildings, and streets. Conversely open space in urban areas is the most difficult to preserve and maintain. Land values make preservation or larger open spaces difficult unless owned by a public entity. The need to maintain and increase available open space and parks and recreation activity was an opinion expressed by participants throughout the planning process. (Walker Master Plan, 1998)

The Walker Master Plan links successful neighborhoods to expanded recreational opportunities, further supporting the proposed GrandWalk trail.

Kent County

Kent County Parks, Recreation, and Natural Areas Master Plan

This Master Plan is currently a working draft and is in the process of being updated, and is to be completed summer 2007. See Map 9 for the Greater GrandWalk Area Trails.

The mission of the Kent County Parks Department revolves around enhancing the quality of life for Kent County residents through responsible recreation practices. The county is progressive in understanding the role of recreation in the lives of citizens and has planned accordingly. Plans through the year 2022 include:

“connecting people, facilities and natural resources, and enhancing a sense of community; providing and safeguarding exceptional scenic, natural and historic recreation resources; creating partnerships with business, non-profit organizations and other units of government to efficiently meet the recreational needs of Kent County residents; having appropriate, stable funding sources and being recognized as worthy of such; being known and readily accessible to Kent County residents and visitors.” (Kent County Parks MP, 2003)



Insert Map 9 here
Greater Grandwalk trails map



In 2002, Michigan State University conducted a Recreation Needs Assessment for Kent County Parks as part of the 2003 update to the Kent County Parks and Recreation and Natural Areas Master Plan. The report surveyed county residents for their opinion with regard to expanding recreation in Kent County. The executive summary of this report can be found in Appendix H.

United Growth for Kent County

United Growth for Kent County is a key area functioning coalition that strives to affect land use patterns in a positive manner. The group is led by a wide array of stakeholders with varied interests. Their mission statement is: "to serve as a sustainable, citizen-based organization that unites people and organizations around the promotion of positive land use in Kent County and West Michigan" (United Growth for Kent County Annual Report, 2004). The following list shows some of the key guiding land use principles of United Growth that pertain to GrandWalk:

- Strong, mutually supportive connections between neighborhoods and the larger economic, political, and social systems must be encouraged.
- Form follows function: the design of the physical infrastructure should assist in achieving the formation of human connections and incorporate good design, land conservation and aesthetics to promote acceptable density levels.
- Governmental units should encourage development where infrastructure already exists.
- Communities should incorporate pedestrian, non-motorized, and public transportation options into existing and future development. (www.unitedgrowth.org)

The United Growth principles may be applied to the proposed GrandWalk trail in many ways, however nothing relates more closely to the first point of connectivity than a pedestrian trail linking neighborhoods, parks (Richmond, Riverside, and Millennium), three trails (Musketawa, White Pine, Standale), and businesses within GrandWalk. Community support and leadership is essential to the development of the trail, and in addition to expanding green infrastructure, the trail could also help to strengthen a sense of community for GrandWalk residents. Using the provided infrastructure of the abandoned rail bed, coupled with the soon to begin sewer easement gravel road, provides a great opportunity for community leaders to incorporate non-motorized transportation into future development while simultaneously using existing infrastructure.

West Michigan

West Michigan Strategic Alliance

In 2003 the West Michigan Strategic Alliance (WMSA) sponsored and brought together stakeholders to produce a green infrastructure strategy report for the region. Green Infrastructure, as defined by the Conservation Fund and USDA Forest Service, is a planned network of green spaces that benefit wildlife and people and link urban settings to rural ones. (Conservation Fund) The WMSA Task Force group brought together 30 local leaders and experts as well as representatives from the Annis Water Resources Institute to decipher green infrastructure links in West Michigan. Joined by representatives from the community and funded by the Frey and Wege Foundations, the West Michigan Strategic Alliance's Green Infrastructure project produced a report that offered a 25-year vision for the region. The 25-year vision is viewed as a first step toward an integrated, region-wide approach to protecting and preserving the green infrastructure that is integral to the West Michigan



way of life. Of special interest to the GrandWalk trail are some of the recommendations made by the Task Force including:

- Adding 500 miles of new connector trails and greenways;
- Developing a 25-year plan to add 500 miles of trails and greenways at a cost of \$90 million;
- Ensuring that park access is available in urban neighborhoods and provide incentives for integrating green space into development project;
- Integrating green infrastructure in urban and developed settings.
- Trails such as the GrandWalk trail serve to fulfill part of the vision by creating means of non-motorized access to green spaces and creating connectivity between communities.



Figure 30 – Common Process for Green Infrastructure Planning

Green infrastructure planning with regard to the GrandWalk trail could be connected with watershed protection of the Indian Mill Creek which parallels the proposed trail. The Trust for Public Land reveals key elements that lead to success in watershed land conservation that form obviously links to green infrastructure principles.

West Michigan Trails and Greenways Coalition

In addition to visioning, the WMSA Task Force recommended that the region embrace the Western Michigan Trails and Greenways Coalition's vision. The West Michigan Trails and Greenways Coalition is a non-profit group whose mission is to help local trailway groups with funding, planning, and development. Their goal is to grow current connectivity of 152 miles of trailway into a regional trail network of 510 miles covering 20 counties in Michigan. Given the rapid rate of urbanization in west-Michigan the coalition believes green infrastructure must be factored into development. "Michigan's \$12 billion tourism industry is second only to the state's auto industry" (Creating Connections, 2003). Trailways are part of the revenue generating component of the state which cannot be overlooked. Trails also help nurture community health, simply through the act of



physical exertion. The Coalition believes in using rail road right-of-way and aid in incorporating trail and greenway easements into developments. The Coalition has identified these benefits of trailways:

- promote an active, healthy lifestyle;
- encourage community land preservation and reclamation;
- offer a viable alternative to motorized transportation;
- link communities, and create a rural-urban exchange by bringing city dwellers to the country and visa-versa;
- enhance economic development and tourism; and
- boost adjacent land values

The Coalition has already included the GrandWalk trail into its Campaign Phases with a scheduled completion between 2009 and 2011. In addition to linking the Musketawa and White Pine trails, the Coalition has hopes to connect the GrandWalk trail with the proposed Fred Meijer 4 mile trail and to Millennium Park via the Fred Meijer Standale Trail.



Figure 31 – Western Michigan Trails and Greenways Coalition Trail Map



State

MDOT State Long-Range Transportation Plan: 2005-2030 - Non-motorized Technical Report

Non-motorized transportation is one element of an integrated transportation system. The Michigan Department of Transportation (MDOT) is working to achieve the integration of non-motorized components into transportation plans and projects, and also work with partners to provide nonmotorized training and guidance on best practices. The focus of their report will be on the limited nonmotorized facilities under MDOT control. At the state level, the MDOT maintains over 2,560 miles of paved shoulder in excess of four-feet (the minimum width recommended for accommodating bicycle access) on non-freeway trunk-line routes. Through the Transportation Enhancements grant program and other partnerships and programs, the department interacts closely with local agencies to influence extending state nonmotorized assets. Michigan is a national leader in the number of miles of converted rails-to-trails, with currently over 1400 miles in operation. (MDOT SLRP, 2006)

On-road and Off-road facilities

On-road facilities are generally developed by the following units of government: villages, cities, townships, counties and the state. These on-road facilities may be: paved shoulders, bicycle lanes, or wide curb lanes; usually eligible for several different funding sources on the state and federal level.

Off-road facilities are paved and unpaved shared-use paths, sidewalks, rail-trails, and greenways. As use of off-road facilities has increased, and they are gaining more interest, provision has extended beyond local municipalities. Many developers are now considering these facilities into new developments. In any event, MDOT may be requested to ensure development compatibility with proper state and national standards.

Michigan is proud to be first in the nation in the total number of miles of converted rails-to-trails with 1,428 completed miles in 2005. These rail-trails and other shared-use trails provide non-motorized linkages between communities and points of interest across the state, some stretching to 90 miles in length. Many of these shared-use facilities and rail-trails are owned and maintained by the Michigan Department of Natural Resources, or county and local parks and recreation departments. The Michigan Department of Transportation partnered with the above agencies and others to help fund the acquisition or development of many of these trails through the federal Transportation Enhancements grant program. (MDOT SLRP, 2006)

Michigan Department of Transportation (MDOT) Policy

The SAFETEA-LU program, discussed in the Federal section, requires MDOT and local governmental units to meet specific objectives. Specifically, bicyclists and pedestrians must "be given due consideration in the planning process". (MDOT SLRP, 2006) Another benefit of this program is the requirement of a non-motorized coordinator. MDOT's coordinator is a full-time advocate and technical resource to be used by the various stakeholders involved in non-motorized transportation development, and additional coordinators are being trained.



The federal government mandates that each state set aside 10 percent of its Surface Transportation Fund to “be available for transportation enhancement activities.” The types of activities eligible for funding under the Enhancements program that benefit the non-motorized program are:

- Provision of facilities for pedestrians and bicycles;
- Provision of safety and educational activities for pedestrians and bicycles; and
- Preservation of abandoned railway corridors (including the conversion and use thereof for pedestrian or bicycle trails).

Transportation Enhancement investments help create a balanced multi-modal, non-motorized, friendly approach to enhance mobility and accessibility for all transportation system users. (MDOT SLRP, 2006)

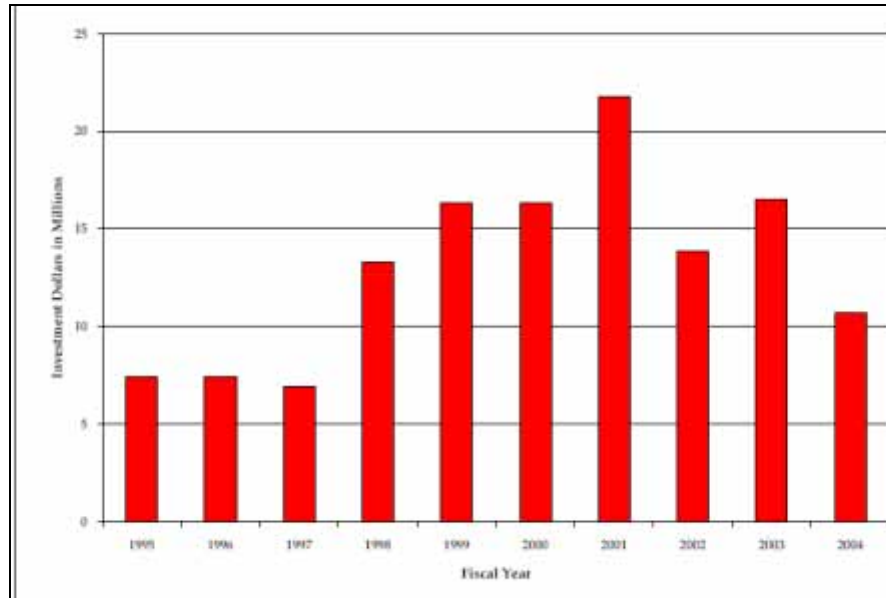


Figure 32 – Nonmotorized Program, Transp. Enhancement Prog. Investment in Millions (1995-2004), MDOT

Other laws and policies pertaining to MDOT's non-motorized facility development can be viewed in the appendix. See Appendix I pertaining to Michigan Transportation Fund

MDOT takes into consideration local demonstration of support for non-motorized facilities in its review of Transportation Enhancement applications. To achieve a network of non-motorized facilities within a community it is helpful to develop a non-motorized facilities plan and adopt zoning ordinances and site plan review procedures that address the provision of nonmotorized facilities. (MDOT SLRP, 2006)

The Governor, as a result of the Michigan Land Use Leadership Council's final report (following section), issued an Executive Directive requiring MDOT to include Context Sensitive Solutions (CSS) into transportation projects where possible. The Federal Highway Administration (FHWA) defines CSS as a “collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic, and environmental resources, while maintaining safety and mobility.” To ensure nonmotorized transportation was accounted for, MDOT officially adopted a CSS policy in 2005.



Michigan's Land, Michigan's Future

A report done by the Michigan Land Use Leadership Council for the Governor and Michigan Legislature in 2003 entitled “Michigan’s Land, Michigan’s Future,” contains extensive references to green infrastructure and trails. The purpose of the Michigan Land Use Leadership Council is to make land use recommendations, and part of their vision is a desire to have "communities where green spaces are linked via trails and pathways for human and animal use" (MI Land Use Leadership Council, 2003). The Council recommends that the state:

- Provide incentives for all affected parties in order to develop and maintain trailways and to avoid the interruption of trailways vital to recreation and tourism interests
- Encourage a statewide linked system of trails and recreation, as outlined in the Michigan Trailways Act
- Place emphasis on securing abandoned rights-of-way (such as railroad rights-of way) and avoiding condemnation

The report also calls for public and private efforts to create these more livable urban areas, viewing the creation of inner-city trails/pathways as essential to sustainable communities.

Federal

SAFETELU

On August 10, 2005, the Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA-LU) was signed into law by President Bush. This program guaranteed funding for highways, highway safety, and public transportation totaling \$244.1 billion; the largest transportation investment in our nation's history.

Of importance to GrandWalk, SAFETEA-LU addresses increasing intermodal connectivity, as well as protecting the environment. Although SAFETEA-LU aims to streamline Federal surface transportation programs, it also gives local officials more decision making flexibility to solve community transportation problems. SAFETEA-LU continues a strong fundamental core formula program emphasis coupled with targeted investment, featuring:

- **Environmental Stewardship:** SAFETEA-LU retains and increases funding for environmental programs of TEA-21, and adds new programs focused on the environment, including a pilot program for nonmotorized transportation and Safe Routes to School. SAFETEA-LU also includes significant new environmental requirements for the Statewide and Metropolitan Planning process.
- **Environmental Streamlining:** SAFETEA-LU incorporates changes aimed at improving and streamlining the environmental process for transportation projects. These changes, however, come with some additional steps and requirements for transportation agencies, including a new environmental review process for highways, transit, and multimodal projects. (SAFETEA-LU, 2005)

Two federal SAFETEA-LU programs that have great importance to the GrandWalk trail:



Recreational Trails

A total of \$370 million is provided through 2009 to continue this program to develop and maintain trails for recreational purposes that include pedestrian, equestrian, bicycling and non-motorized snow activities as well as off-road motorized vehicle activities. New eligibilities are provided, including construction and maintenance equipment, real estate costs, educational program costs, State administration costs, and assessment of trail conditions. (SAFETEA-LU, 2005)

Safe Routes to School

This new program will enable and encourage primary and secondary school children to walk and bicycle to school. Both infrastructure-related and behavioral projects will be geared toward providing a safe, appealing environment for walking and biking that will improve the quality of life and support national health objectives by reducing traffic, fuel consumption, and air pollution within the vicinity of schools. Infrastructure improvements such as sidewalks and traffic calming projects are the main impetus of the Safe Routes to School program. As part of the Federal Surface Transportation Bill, signed into law in August 2005, every state can apply for sidewalk and trail funding that increases pedestrian school connectivity. With regard to schools, the proposed GrandWalk trail could potentially offer a safe route to GrandWalk area schools. The trail potentially provides schoolchildren with a route that would avoid more dangerous routes along Alpine and Richmond. The proximity of Harrison School, Fairview Elementary, and, most directly, West Catholic High School, may provide local government and resident groups with an additional incentive to plan and construct the GrandWalk trail. See Map 8.



V. Non-motorized Trail Development Legal Requirements, and Liability Issues, and Construction Standards

Introduction

When proposing to build a new trail several features need to be taken into consideration. This section will examine issues that pertain to the specifics of trail development. Planning for the proposed GrandWalk trail will require an extensive understanding of the legal procedures and requirements for development. In this section information regarding the acquisition of trail property, including the complexities of railroad land ownership, the eminent domain process, resident and user liability and safety, trail feature standards, as well as safety information for various trail attributes are discussed. Construction materials are touched upon as well due to their influence over the types of trail users and the impact on the surrounding land.

Procedures for Acquiring Trail Property

Railway Corridor Land Ownership Distinctions

Railway corridors are often composed of an interesting assortment of parcels. Determining ownership versus easements and the rights associated with both of these legal states is essential to collecting and acquiring parcels for trail conversion. Generally, the parcels can be understood to fall into three categories 1) outright ownership, 2) easements or a right-of-way (ROW) or 3) land grants. Often, while many potential parcels are perceived to be “owned” by a railroad company, in actuality the right-of-way that the railroad held/holds in the area may have an assortment of owners. When a railroad abandons a line, defining ownership becomes increasingly difficult. It is important to note that the removal of railroad tracks does not automatically constitute abandonment, and clarification of the rail status must be determined through the railroad company. (Rails-to-Trails – Acquisition)

Outright Ownership

Often railroad companies purchased the land for their tracks outright or acquired a “fee title” for the land. If this is the case for parcels along the proposed trail, the railroad would still retain control of the property even if it is no longer in use, and would be required to pay taxes for the land. (Rails-to-Trails – Acquisition)

Easements

There are many types of easements, but generally an easement is described as the right to use the land of another for a stated purpose. The specific type of easement associated with railroad corridors are public, commercial, easements *in gross*, or easements that are attached to an individual person or legal entity rather than a parcel of real estate served by the easement. The easements in question, with regard to the GrandWalk corridor, are most likely “express” in that the easements were granted or reserved and included in a document such as a deed or other official document. In theory this means that if a deed can be located for each of the parcels, the easement will be attached or recorded as something permanent.



A railroad easement is different from outright ownership of land by the railroad company, because it only gives the railroad the right to operate upon the land. Easements were often negotiated initially by railroads because it was less expensive for the rail company to purchase an easement rather than the entire parcel of land. Easements may have been secured by the railroad from the local government (right-of-way easements) or from private property owners. Right-of-way easements obtained from the local government are simply a type of easement that is used for transportation purposes only.

Each state has a different interpretation of “rail use” on existing right-of-way easements – some take it very literally, restricting the use of the easement to rail transportation exclusively, while others allow transportation of all types along the corridor. Michigan, narrowly defines rail easements for rail transportation only (Michigan Dept. of Natural Resources v. Carmody-Lahti, 2005) meaning that when a railway abandons a property, easements of both types (both from the government and from individual land owners) are extinguished. In other words if a railroad company abandons any easement property, this land would immediately revert back to the original owner, be it the government or another land owner. (Rails-to-Trails – Acquisition)

Land Grants

In addition to outright ownership and easement land, railroads often secured land grants for the tracks. In an effort to attract the railroads back in the 1800s, many jurisdictions (city, county, or federal government) donated land to the rail companies in order to assure the economic value of railroad transportation. These grants may have been unconditional, meaning that the rail company could dispose of it at will if the line was abandoned, or it may have been conditional, and the state conferred only limited rights to the railroad in a contract similar to that of an easement. If a land grant is conditional, when a railroad ceases to exist, the land is recaptured by the donating party. The State Attorney General’s office records information on these types of land grants. In all instances though, federally granted corridors revert back to the federal government immediately after abandonment. Generally, a basic title search for parcel will determine whether a railroad corridor is composed of land grants and if any land grants have been federally reclaimed.

Other Problems Determining Land Ownership

Railroad property rights are poorly enforced, especially along abandoned lines, and neighboring property owners may intentionally or unintentionally use land they do not own. This type of encroachment can have easement or adverse possession implications. Encroaching landowners may have certain rights over abandoned railroad property if they have occupied the corridor for a period of 15 years. An example of possible adverse possession within the GrandWalk trail corridor is the stretch of land owned by the Pennel Company near the Alpine intersection. The Crystal Flash Company has paved part of this parcel and is using it as parking/driveway space. It is conceivable that Crystal Flash is entitled to ownership of part of the Pennel parcel through adverse possession depending on how many years they have been utilizing the space without complaint from Pennel.

If an adjacent property owner stakes a claim to previously owned rail land, there are five options for resolution: 1) quiet title action, 2) ejectment, 3) slander of title suit, 4) mediation, or 5) eminent domain. Usually a quiet title action is used, meaning that a court will evaluate competing claims to determine who has the most legitimate ownership, in combination with a request for ejectment, or to have the other party and its possessions removed from the land. A slander of title suit may also be a result of quiet title action, if either party sues for losses associated with competing ownership



claims. Mediation, or dispute resolution, is often one of the best and most creative ways to resolve title disputes, however, should all of the above actions fail, a governmental organization may exercise eminent domain to acquire the dispute property through condemnation proceedings.

Acquiring a Railway Corridor

There are several steps that must be taken in order to assemble land from an abandoned railway corridor, such as the one for the proposed GrandWalk trail.

First, it is essential to understand who the owners are of the various parcels that make up the corridor. Generally this first step in the acquisition process is legally entitled “due diligence” or “the inspection and investigation of real property, personal property or a business entity before a buyer makes the final decision whether to consummate an acquisition, merger, or loan transaction.” (Jacobson) With the understanding that railroad land was often a conglomeration of various types of “ownership,” an important first step is using deed and title information to sort out current parcel legal distinctions. Tax maps, property surveys, copies of deeds and other documents from the tax assessor’s office and county courthouse are helpful in this process, as is a “track map.” The corridors of every major railroad have a track map including the parcel size, location, survey information, easements, encroachments, and reference to deeds etc. This information must be obtained from the rail company directly, and specific information about which railroads previously functioned in the corridor is crucial. Further complicating the process is the fact that the deeds for railroad parcels can be over a hundred years old and may be difficult to locate without the name of the original railroad company that purchased each parcel. For this process to be fully completed a title search is most likely required for each of the parcels in question, so that the legal ownership can be satisfactorily determined. Each parcel title search costs between \$200 and \$300, but they are invaluable throughout the acquisition process. (Jacobson)

The next step, after all existing and readily available information has been collected with regard to ownership of parcels, is determining the most appropriate means for acquiring each parcel. For instance, it is important to determine which parcels will need to be purchased and for which only a small easement would be required. Most land will fall into these two categories; furthermore the process for obtaining both types of property is very similar.

Purchasing Parcels or Easements

For parcel or easement purchases from private landowners, the governmental organization usually begins by obtaining a market study in order to gain a general idea of the value of the land in question, while simultaneously initializing contact with property owners. If needed, an appraisal may be obtained for individual parcels. The willingness of the landowner to negotiate a purchase will determine whether the government must resort to eminent domain. According to the City of Walker Engineer Scott Conners, a suitable price estimation for the cost of an easement is 20-25% of the property value. This means that easement price estimates done for other trails within the City of Walker took the property value information from the tax assessor’s office and multiplied that value by 20% to determine an easement value (ex. \$100,000 parcel x .20 = \$20,000 easement value). Easement values tend to vary greatly depending on the parcel and on the type of easement (i.e. power line verses a private driveway), however the 20-25% range is a practical general estimation of easement costs.



Railroad companies usually have a real estate division where interested purchasers can access a portfolio of available parcels. CSX Railroad, for example, has a wholly-owned subsidiary entitled CSX Real Property Inc., which negotiates real estate transactions. However, rail companies often charge a premium for this land, understanding the unique value of the corridors. The free market valuation of land dictates the price of railway land, meaning that land in urban and industrial cores are often impractical to purchase and convert. (Wikipedia – Rail Trail)

Eminent Domain for Parcels or Easements

If a property owner is particularly unwilling to sell their land or grant an easement, and the government has a legitimate reason to acquire the land, then the legal process of eminent domain may begin. According to City of Grand Rapids Engineer Breece Stam, the government may only take land if it is deemed necessary, meaning that for the GrandWalk trail, a formal trail project plan must be completed and all other alternatives exhausted. In order for eminent domain to be used, the government must demonstrate that the taking of the property is for a public use, as defined by law. Mr. Stam stated that in the Grand Rapids area, condemnation of land is so politically unfavorable, that even with a trail project in place, eminent domain might not be utilized by city government.

Generally the Eminent Domain process is thus:

- The government will attempt to purchase the property at a fair price through negotiation with a private landowner.
- If the owner is unwilling to sell, the government will file a court action to exercise eminent domain and serve notice of the hearing to the landowner.
- At this time, a hearing is scheduled where the government must prove that negotiations were attempted but an agreement could not be reached. Additionally, the government is required to demonstrate that the property taking is for public use.
- If the government is successful in its petition, the courts will hold hearings to determine a fair price for the land. However, if the government is unsuccessful, or the property owner remains unsatisfied, either side may appeal.

The type of “taking” incurred would be one of three: 1) a complete taking, 2) a partial taking, or 3) an easement or right-of-way. The type of taking will depend on the parcel size, location, orientation of business (if any), etc. as well as the government’s intention for the land. (Jacobson and Rails-to-Trails – Due Diligence)



Resident and User Liability and Safety

Unique challenges involved with the development of a GrandWalk trail are to be expected. However, many of the objections to a proposed trailway are relatively predictable. The most notable concerns include the issues of:

- Increasing crime and vandalism along the pathway.
- A decrease in value of the adjacent properties.
- Unacceptable amounts of litter.
- Additional noise.
- Disturbance of wildlife.
- Excessive liability obligations.

Each of these issues surrounding the trail proposal must be carefully addressed with community members and other stakeholders. Highly negative aspects of a trail often cloud peoples' perception as a result of a few but vocal, trail opponents who rarely possess empirical evidence and frequently refer to only a limited number of related news articles referring to trail incidents.

Liability

“The research that has been conducted, along with anecdotal evidence, suggests that converting an abandoned rail corridor to a trail actually tends to reduce crime by cleaning up the landscape and attracting people who use the trail for recreation and transportation.”(Hugh, 1998) Surveys and case studies of established pathways provide a reliable indication of what can be expected on future trail developments. The frequency or severity of a variety of negative impacts from a new trail can be gauged by examining the past experience on similar trails. According to Crime Analyst Bruce Harrison from nearby Kentwood, his eight year experience with trails in the city has noticed “very little crime...Per users of the trail. We are expanding the trail in our city and have yet to run into any major problem.” The most notable problems involved two vehicles of trail users that were broken into and had purses stolen from them. This happened despite the city’s posted warning and placement of parking next to major roads to deter just this type of incident. In both cases the purses were left in plain view inside the cars as the women did not want to carry them while using the trail.

The question of liability is best examined independently from case studies. Legal documents and state legislation exist to minimize risk and clarify this issue. “Trial skeptics and opponents often declare the liability associated with trails is so great that communities cannot afford the insurance necessary to protect from potential lawsuits.” (Hugh, 2000)

Provisions can and should be made for certain types of business in the Grandwalk neighborhood that exhibit unusual characteristics. An auto salvage yard along side a trail may prove to be an added challenge with stacks of cars and parts in a captivating state of decay lying just beyond the reach of adolescent kids passing by. Effective solutions can be found to protect these businesses that would involve other methods then the stereotypical junkyard dog behind a fence. With a variety of trail users in several different trail settings there come a number of liability questions from various parties. Public entities that build and maintain trails have obvious concerns. Similarly, private owners of adjacent property fear that trail patrons will wander from the trail, onto their land and injure themselves or damage property. The private, land owners who make their property available



as a trail for recreational use by others are understandably concerned about the liability that comes in doing so.

“There are three legal precepts, either alone or in combination that define and in many cases limit liability for injury resulting from trail use.”(High, 2000) The concept of duty of care identifies the level of responsibility a landowner has to anyone on their land. A second form of protection is found in the Recreational Use Statute providing other legal limitations. Liability insurance provides a third line of defense. Certain measures of risk management, practiced by trail managers can add even further protection.

Duty of Care is concerned with the “class” of person who sustained injury and the legally defined responsibility or duty of care owed to individuals of that classification. The class of person directly determines the level of liability assigned to the property owner.

A Trespasser is on the land of another without the property owner’s permission either intentionally or unintentionally. These individuals are due the least duty of care and present a minimal level of liability risk. Unsafe conditions are generally not a responsibility of the landowner provided they are not the result of deliberate or reckless misconduct. Very little risk is presented by this class of person. See Appendix J for City of Grand Rapids Trespassing Information.

The Licensee is someone who is on the property of another with the owner’s permission but only for the benefit of the visitor. There is some added liability for the landowner in this situation. Unsafe conditions unknown to the landowner are not his responsibility. However, they are required to provide warnings of known dangers on their property.

An Invitee is seen as being on the owner’s land with permission but also for the benefit of the owner. A customer paying for the use of the land is an example of an Invitee. This scenario has the highest level of liability for the land owner and places the duty on them to inspect the property and facilities to discover unknown dangers, remove the dangers or post proper warning, keep the property in reasonably safe condition and anticipate foreseeable activities by land users and take precautions to protect others from foreseeable dangers.

This classification system once defined the liability of landowners connected to all pathways. With the common practice of states adopting Recreational Use Statutes these limitations and classifications are now spelled out in state law. “The theory behind these statutes is that if landowners are protected from liability they would be more likely to open up their land for public recreational use and that, in turn, would reduce state expenditures to provide such areas.” (Hugh, 2000)

All fifty states have created laws that substantially limit public and private landowner liability. Recreational Use Statutes protect the private land owner who has opened their land to the public for recreational use without charge. The following excerpt from Michigan’s Natural Resource and Environmental Protection Act states the protection coverage available in Michigan:

Sec. 73301. (1) ... a cause of action shall not arise for injuries to a person who is on the land of another without paying to the owner, tenant, or lessee of the land a valuable consideration for trail use, with or without permission, against the owner, tenant, or lessee of the land



unless the injuries were caused by the gross negligence or willful and wanton misconduct of the owner, tenant, or lessee.

(2) A cause of action shall not arise for injuries to a person who is on the land of another without paying to the owner, tenant, or lessee of the land a valuable consideration for the purpose of entering or exiting from or using a Michigan trailway as designated under part 721 or other public trail, with or without permission, against the owner, tenant, or lessee of the land unless the injuries were caused by the gross negligence or willful and wanton misconduct of the owner, tenant, or lessee.

For purposes of this subsection, a Michigan trailway or public trail may be located on land of any size including, but not limited to, urban, suburban, subdivided, and rural land.

Insurance is another means of protection that should be in place. Since state laws can only prevent a lawsuit from prevailing in the courts added protection is needed in the case that a lawsuit is filed. These needs are present for both public agencies that own and maintain a trail and for private landowners connected to the trail. "Most trails are owned and operated by a public entity such as a parks department. Under this structure, the responsible entity most often is covered by an umbrella insurance policy that protects all municipal activities and facilities. Such entities are self insured. Some trails are owned by non-governmental organizations. In this case, the organization should purchase a comprehensive liability insurance policy." (Hugh, 2000) The organization or individual responsible for maintaining the trail is at greatest risk of a lawsuit resulting from an injury. The management entity must have a sufficient liability policy to cover the cost of defending a law suit and possible jury award.

For the private landowner with a trail on his/her property there is no need for them to bare the additional burden of added liability insurance costs. In situations where an easement is purchased for the placement of a trail on an owners property the easement document spells out the specific arrangement for insurance coverage. The Landowner as the Grantor of the easement places the insurance and liability on the Grantee of the easement in this legally binding contact. Item seven of the Perpetual Trail Right-Of-Way Easement states:

7. Insurance and Liability. Grantee agrees to maintain at all times during which the Trail Easement Areas is open for public use a standard policy of general commercial liability insurance with respect to the Trail Easement Areas having a coverage limit not less than \$ __,000,000, adjusted upon request of the Grantor, not more frequently than every five years, to an amount equivalent to that sum in 200__ Dollars. Grantee shall cause Grantor to be named as an additional insured on its said policy of municipal insurance for the purpose of the Trail.

Through state statutes, contractual arrangements, conventional insurance and self reliance through proper risk management the liability factor as a barrier to trail development has been greatly diminished. By minimizing liability risk with these tools the advantages of a trailway become clearer in relation to the negative consequences associated with them.



Safety

A fundamental question for the developers of a trail extension is ‘how safe will this be as a transportation option?’ An individual answering this question would benefit from understanding which people using the trail are at greatest risk, how general problems associated with a trail can be addressed and how the general public can better understand trail issues to enhance its safety. It is also important to distinguish between safety and security of trail users. “Security is enhanced by promoting improved visibility (street lighting, open pedestrian/bicycle-friendly facilities, etc.). Safety is enhanced by reducing the risk of exposure to trail patrons to crashes with other modes of transportation.” (GDOT)

Trail safety is not an issue to address infrequently or lightly:

“Even in a nation with shocking numbers of obese and overweight people, many Americans use multi-use trails through parks and other green areas. On relatively narrow trails adult and child runners, bicyclists, walkers and even a few skaters are creating dangerous conditions. On some trails there may also be people on horseback. Plus there are nature watchers stopping frequently. Making things even more dicey are groups of people “doing their thing” and intent on staying together regardless of whomever else is in the way. And then there are the mothers and nannies pushing strollers. Now take all this diversity and notch it up. Why? Because a whole lot of these trail users are also talking on cell phones or listening to music from their iPods. Distracted car drivers are a known threat on roads and distracted trail users have become just as dangerous. Add to all this intersections on trails with other trails, roads and rest areas that cause trail users to stop or pause. Making matters even more risky are bends and curves and steep inclines that cause problems for users moving at relatively high speeds.” (Hirschhorn p.1)

Actions taken to increase safety along trails have relied on several approaches. As a way to determine the effectiveness of safety initiatives it is useful look at the desired effects and the proposed measures for achieving the target improvements. National and State guides have divided countermeasures into seven categories:

- Pedestrian Facility Design
- Roadway Design
- Intersection Design
- Traffic Calming
- Traffic Management
- Signals and signs
- Other Measures

The next two pages contain a figure from the Georgia Department of Transportation that provide a comprehensive list of safety performance objectives and counter measures.

Figure 33 – Pedestrian Friendly Design
See following two pages.



Insert Nathan’s table in excel format here





Optimal levels of safety and security can be achieved from the sited design and management techniques. Any plan for safety would be incomplete without proper education of individuals using the trail in the variety of ways that are possible. Several trail networks have developed guidelines, listed rules for trail use and have prominently displayed proper trail etiquette in numerous situations. Regular efforts to educate the public will deliver greater safety on the trails. At a minimum it will clarify what is expected of people on the trail. Nearly all accidents are preventable. In the event that trails increase in demand faster than they increase in capacity, some logistical problems may occur but educated and considerate users will help keep it safe.



Safety Measures When a Trail Intersects a Roadway

When building a trail, pedestrians and their safety is a main concern. This is especially crucial when a trail enters an urban setting. Creating raised intersections where pedestrians would cross is one way to help move people across an intersection safely. A raised intersection is essentially raising a small strip of roadway at the intersection so it is level with the sidewalk on each side. This small strip would have ramps on each side for vehicles to travel over. The center of this strip is flat for pedestrians to travel upon. When the crosswalk is at the same level as the sidewalk, it creates an easier access crosswalk for those who are disabled. However, since visually impaired pedestrians cannot “feel” where the curb is located, this type of design may also need to include guide-strips.



Figure 34 – Example of a raised crosswalk

Not only can the crosswalk part of the intersection be raised but sometimes, the entire intersection can be raised in order to provide even more safety for pedestrians. However, these should not be used if there is poor sight visibility or if the street is too steep and adequate drainage may need to be engineered for the intersection. Raised crosswalks can cost anywhere between \$5,000 and \$7,000 and to raise the entire intersection, it could cost anywhere from \$25,000- \$70,000. Cost can vary greatly depending on the size of the intersection, drainage improvements needed, and the type of materials that are used. (Federal Highway Administration) A raised crosswalk should be considered for the proposed trail route in two locations: where the trail running within Ann Street right-of-way intersects Turner Avenue and where the trail leaves Ann Street to cross over the existing pedestrian bridge over Indian Mill Creek. A raised intersection would alert trail users to the potential intersection hazard or to the existence of the railroad tracks and also make their crossing smoother.



Figure 35 – GrandWalk Trail Intersection at Alpine Avenue

This Intersection should be either raised or an overpass should be constructed for safe crossing.



The traditional push-button system, when pushed, activates the crosswalk sign and allows pedestrians to cross safely. However, these buttons can now be illuminated when pushed so the pedestrian can have instant feedback on whether the device is working. These types of buttons can also be equipped with speakers that emit sounds that alert pedestrians with sight impairments that they may cross or not cross the street. In accordance with sounds, these types of buttons can also have a raised arrow on them so a visually impaired pedestrian can feel which crosswalk button to push for the direction they wish to travel in.

Another type of safety measure that can be used at crosswalks is microwave and infrared detectors. These types of devices can automatically detect that a pedestrian is at the curbside. The device will then automatically activate the switch to allow pedestrians to cross the street safely. If a pedestrian cannot make it across the street in the time allotted, the microwave or infrared device can detect that and give them more time to cross.

Even signals have taken a new look since the original walk/don't walk. Now there are some that have a pair of eyes incorporated on the top. These eyes look from side to side in order to encourage pedestrians to look for cars that are turning before stepping out onto the street. Signals that count down are also being developed. These can be used in order to inform the pedestrian how much time remains for them to make it across the street safely.

In-pavement lighting is a new concept that can be used in crosswalks to help alert motorists that a pedestrian is located within the crosswalk (Figure 36). These lights are placed within the pavement and are situated to face oncoming traffic. A push-button, infrared, or microwave system may be used in this case and when it is activated, the lights of the crosswalk turn on and will flash. The motorists will then be aware of the pedestrian and they can safely cross the street. (Harkey, D., Valiulis, C., and Hughes., R, 2000)

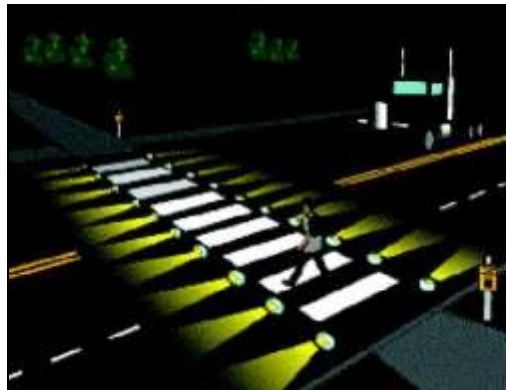


Figure 36 – Example of pedestrian crosswalk with in-pavement lighting

If the space allows, pedestrian refuge islands can also be used to help safely move pedestrians across an urban multi-lane intersection. If a pedestrian cannot safely cross the street within a reasonable amount of time, a refuge island should be considered in the crosswalk design. However, this should not be the only consideration when considering installing this type of device because even if a pedestrian can move safely across the road, they may cause traffic to back up too much. In this case, a pedestrian refuge island should also be used. These should typically be about 12 feet by 6



feet in order to give the pedestrian a safe place to be. Therefore, if the space is not available then this type of device cannot be used. (U.S. Department of Transportation, Federal Highway Administration)

A pedestrian bridge or overpass should be used when crossing a highway or other busy intersection where stopping traffic for a pedestrian to cross is just not possible. (See Figure 37 on the following page.) These devices should also be used when the trail or sidewalk crosses a river as well as when they cross a rail switchyard or an active railroad. Pedestrians will usually use an overpass when the road is sunken, however overpasses can be engineered with ramping on either side of the roadway if the road is not below grade. Gradual inclining ramps will also helpfully accommodate bicyclists, strollers, and handicapped people. A pedestrian overpass should be considered in two locations along the proposed trail route: just past the pedestrian bridge over Indian Mill Creek as the trail intersects three active railroads and over the Alpine Avenue intersection. An overpass at these two locations would greatly enhance the safety of these intersections while simultaneously making them more convenient for users traveling with/on a wheeled apparatus.

With regard to both raised intersections and pedestrian overpasses it is important to keep in mind Michigan weather considerations. When dealing with snow removal, some of the devices will require modification. Raised intersections will need to be graded to a reasonable height in order to accommodate street plowing and pedestrian overpasses will need to be engineered in order to withstand the weight of a snow removal machine.

Overall the most important consideration to keep in mind when designing trail intersections is that: *A pedestrian will use the most convenient method available to cross the busy road or railroad.* (Pedestrian Bridge What Works; What Doesn't, 2002)



Figure 37 – Some examples of pedestrian overpasses



Safety Measures for Constructing a Trail beside Water



Figure 38 – Indian Mill Creek waterway

When constructing a trail beside a water feature such as Indian Mill Creek, it must first be determined if the creek is a county drain. The public utility known as a county drain helps drain storm water from the Drainage District. This utility helps prevent flooding, provides storm water management, as well as providing basic drainage for the Drainage District. See Appendix K. If an open/closed drain, stream, or retention pond is found to be an official county drain then an easement must be obtained in this area in order for trail construction. Fortunately for the purposes of this report, only part of Indian Mill Creek is classified as a Kent county drain, and this section is not within the GrandWalk study area. Therefore a permit may not be needed. (City of Walker, City of Grand Rapids, 2006)



Safety Measures for Constructing a Trail Along an Active Railroad

When constructing a trail over a railroad, at-grade crossing is generally not permitted for various safety reasons. Indeed the U.S. Department of Transportation as well as other state agencies have actively developed programs to help eliminate at-grade railroad crossings. In order to travel over railroad tracks, there are three options, an overpass may be built over them, a trail could be sunken below them, or a preexisting grade crossing could be used. (CSX, 2005) As previously mentioned, along the proposed trail route only one railroad crossing would be at-grade (just before the existing pedestrian bridge over Indian Mill Creek), the other three railroad intersections would require a pedestrian overpass with gradual inclines and declines.



Figure 39 – Railroad Track Crossing Near Ann Street

When pedestrian traffic along an active railroad increases, as does the safety risk. Therefore, CSX will not donate, sell, lease, or grant an easement along an active railroad. This means that an easement will not be given for any recreational use along the railroad. These recreational uses include, bike, hiking, walking or jogging trails. (CSX, 2005) This CSX policy determined, in part, the rationale for beginning the GrandWalk trail at the terminus of Riverside Park on the east side of the Ann Street bridge. Following the existing active railroad track south from the White Pine trail on the west side of the Grand River would certainly be more convenient, however these safety considerations eliminated it as a connecting segment for the proposed GrandWalk trail. (See the Recommendations section for further information.)





Insert Map 10 here
GrandWalk Railroad Map



Insert Map 11 here
GrandWalk Railroad Detail



Construction Material Options

The purpose of this section is to assess the possible options of construction material. To make the right selection of materials the advantages and disadvantages must be assessed for the possible materials. Things to consider when deciding are intended uses, accessibility, cost, maintenance, aesthetics, continuity with connecting trails and environmental impact. The most common trail surface is asphalt; in a 2005 survey of 100 trails it was found that 45% were paved with asphalt and a close second 41% were made from crushed stone. (Figure 40) The same study found that a majority of trails were 10ft wide, at 51%.

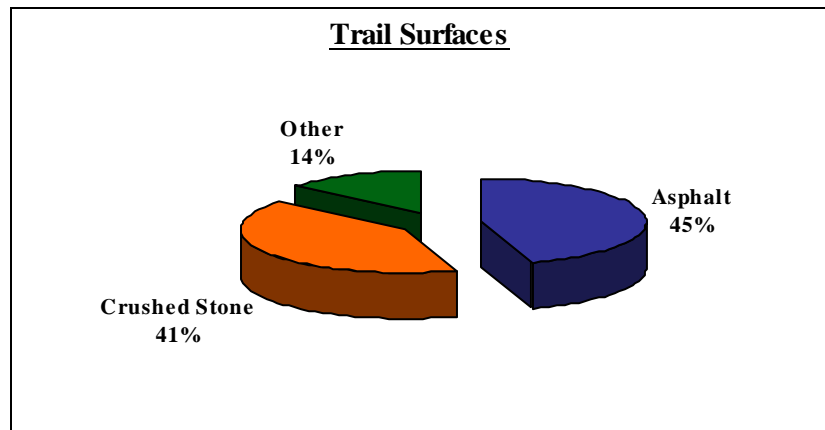


Figure 40 – Trail Surfaces

Materials

There are many options when constructing a trail, especially in an urban environment. The surface of the trail can range from natural surface, to wood based mulch, crushed rock or a road base. Each of these materials has its own advantages and disadvantages, depending on the situation.

Asphalt: There are many different kinds of asphalt, there is Hot-Mix Asphalt (HMA), cold mix, and porous among others. The most common form is HMA and with improvement to technology and concerns for run-off porous asphalt has increased in use. The finished product is a smooth road-like material; this allows immediate access for the disabled as well as provides an even surface for pedestrians, bicyclists, inline skaters and skateboarders, as well as walkers with baby strollers. This black surface may contrast with the look of a natural setting. (Boyer, 1999)



Figure 41 – Asphalt Surface



Crushed Rock: This material is inexpensive and depending on mixture content and packing technique can allow for immediate access for the disabled. It can provide a flat surface for pedestrians and bicyclists. Due to the surface consistency, roots can take hold and weeds can develop requiring maintenance. (Fay, Spofford and Thorndike, 2006)



Figure 42 – Crushed Rock Surface

Wood chip/natural: This material is very cheap but requires high maintenance. After some use the mulch maybe compacted enough to allow for access of wheelchairs. Mulch is natural and very permeable so it does not effect runoff or pooling. Natural stone surfaces can also be stabilized with a stabilizing agent. (Fay, Spofford and Thorndike, 2006)



Figure 43 – Wood Chip Surface

Rubber: Using recycled tires as the base material a rubber trail could be innovative. Depending on construction style the end product can be very smooth and easy on the walker's knees. This material can be constructed from slabs that are rotatable to allow for even wear and water can seep through. Rubber also is not susceptible to root damage from nearby trees, and has three times the lifespan of concrete. (EPA, 2007)



Figure 44 – Rubber Surface

There are many options for construction of a trail. There are certified contractors that can provide a professionally made trail. Another option is to motivate the community and ask for volunteer workers to help construct the trail. A combination of these is also possible depending on the contractors business practices. See Appendix L for selected material pricing information.



Standards for Trail Features

When building a trail, several trail features need to be addressed, such as signs and furniture. Trail signs come in all different shapes and sizes, but there are three main types: on-road urban signs, trail signs, and trailhead/trail interface point signs. On-road urban signs are generally used to inform users that they are still on the trail and to indicate where trail access points are located. A rectangular shaped trail sign with the trail logo and arrows helps users to distinguish where the trail is located and guide them along their way. These types of signs should be placed at all access points on the proposed GrandWalk trail.



Figure 45 – On-road urban signs

Trail signs should contain graphics and text to inform users about road intersections, grade crossings, upcoming dangers, distances, as well as safety messages. Safety information is especially critical to mountain bikers who travel at faster speeds. On the proposed GrandWalk trail signs should be located at road intersections such as Alpine and Anne, grade crossings, the pedestrian bridge, distances to neighboring trails such as White Pine and Musketawa, and any other safety messages that are necessary.



Figure 46 – Trail signs

Trailheads and trail interface point signs should be located at each designated trailhead and at every roadway intersection. Generally trailhead signs are larger to accommodate messages to describe permitted trail uses, warn users they are entering a more densely populated area, describe upcoming trail segment distances, and provide users any other important information. The proposed



GrandWalk trailhead and trail interface point signs should be located at all access points to inform users of what is permitted on the proposed trail, distance of the proposed trail, and any other important information. (MacLeod, 2000)



Figure 47 – Trailhead/Trail interface point signs

Furniture is another important trail design feature. Trail furniture mainly includes benches, picnic tables, trash cans and bike racks. Benches and picnic tables are either portable or permanent and can be made out of aluminum, wood, and plastic. Trash cans also come in a variety of styles and materials while bike racks allow users the chance to change modes of transportation, leaving their bike at the trail, to walk around in the urban environment. (Outside Toys Pro, 2007) There are several varieties of bike racks that can be used. Other furniture that compliment urban trails include ashtrays, planters, and pet stations and are often placed near entrance points. Pet stations would allow users who walk their dog along the trail access to bags and waste stations to pick up after their dog. (Park Equipment Pro, 2007)



Michigan Trail Standards

Trail guidelines affect nearly every aspect of trails. For instance, today diverse types of non-motorized means of transportation can be used on both trails and roadways affecting the standards that need to be met. A mixed use trail might have people using power scooters, bicycles, roller-skates/rollerblades, kick scooters, manual/power wheelchairs, skateboards, strollers, etc. It could also include people who are walking or jogging. Mixed use trails can meet both safety and operational requirements for these different forms of transportation. (Characteristics of Emerging Road and Trail Users and Their Safety, 2004)

The American Association of State Highway and Transportation Officials (AASHTO) have superior guidelines for trail development based on the physical proportions and in use characteristics of transportation devices (for example bicycles). Some of these physical proportions include width, height, length, eye height, etc. Other standards affect the turning radii, the lateral operating space, speed, acceleration capabilities, and the stopping sight distance and time (perception, reaction, and breaking distances). (Characteristics of Emerging Road and Trail Users and Their Safety, 2004)

The ASSHTO guide for the sweep width or the lateral operating space of a shared-use path is 10 feet or 3 meters. If the trail is designed solely for bicycles it could be 4 feet or 1.2 meters. ASSHTO standards include a design speed for bicycles on a trail of 20 miles per hour or 30 kilometers per hour. The necessary breaking sight distance of bikers depends on their speed, reaction time, breaking abilities, and eye height. ASSHTO advises a stopping sight distance of 127 feet or 38.7 meters for a bicyclist traveling at maximum speed on wet concrete. (Characteristics of Emerging Road and Trail Users and Their Safety, 2004)

Refuge islands, or a barrier which allows people on the trail to cross one direction of traffic at a time, pause, and then safely proceed across and intersection, is another important trail design element. The ASSHTO guide has three different standards for refuge islands ranging from poor to good. A refuge island with a width of only 6 feet or 2 meters is considered poor, 8 feet or 2.5 meters as satisfactory, and 10 feet or 3 meters is a good size for refuge islands. In addition to refuge islands, appropriate light signals are necessary for mixed use trails. Common pedestrian light signals are designed so both walkers and manual wheelchair have sufficient time to cross an intersection and are usually timed to be approximately 4 feet per second or 1.2 meters per second. (Characteristics of Emerging Road and Trail Users and Their Safety, 2004)

When developing a trail clearing height is also an important thing to consider. A mixed use trail with both hikers and bikers should maintain approximately 8-10 feet above the trail surface to accommodate tree limbs, extreme weather and even heft backpacks. (Recommended Trail Standards, 2007) Mixed-use trails should also be graded appropriately for wheeled users. Standard grade percentages range from 0-5%. For bikes and rollerblades anything less than 5% is acceptable. A turning radius of 4 feet is acceptable for most trails, while mountain biking trails are recommended to have a turning radius of 8 feet. (Recommended Trail Standards, 2007)

Trail designs fluctuate depending on the expectations of who will use the trail. Trail designers must be sensitive to the physical disabilities of expected users as to allow them the same access to the trail. Disabilities to consider when designing a trail, range from hearing, mental, heart, sight, lung disease, to even ambulatory limitations. (Recommended Trail Standards, 2007)



The Musketawa Trail that ends at the proposed westernmost termination point of the GrandWalk trail provides great examples of a mixed use trail standards. It has a 12 feet wide paved surface and runs through many different types of atmospheres including over creeks, through farm and wetlands, and through more urban areas. Consistency of Musketawa trail standards into the GrandWalk trail should be considered during the final development stage. (Musketawa Trail, 2007)



Figure 48 – Musketawa Trail at the Ravenna trail head looking east
Courtesy of the Friends of the Musketawa Trail



VI. Case Studies – Impact of trails

The purpose of this section is to review and analyze the impact of trails in their respective neighborhoods. Residents and non-residents alike have concerns about the effect any proposed trail will have on the neighborhood and property values. Community members generally have concerns about potential increases in crime rates due to a new pathway or whether the trail will lower their property value. In this section, we hope to provide evidence regarding the impact of trails as documented through various case studies. The case studies chosen include Pere Marquette River Trail (Michigan), Minuteman Bikeway and Nashua River Rail Trail Run (Massachusetts), Omaha Recreational Trails (Nebraska) and Pinellas Trail (Florida). Even though extensive efforts have been made to assess the impact of trails on communities from Kent County or Michigan, no such data are available in a format that would facilitate our research. While none of the researched trails are identical to the proposed GrandWalk trail, each case study offers compelling information for its selection. The following section offers brief background information on each selected trail. Later in this section, more detailed information regarding the results of the case studies will follow with regard to the specific impact of trails on property value and crime.

Description of trails

Pere Marquette Rail-Trail, Michigan

The Pere Marquette Trail covers approximately 30 miles of mid-Michigan. It was developed in sections over eight years beginning with a Midland trail in 1993 and finally reaching the outskirts of Clare in 2001. The number of users is estimated around 177,000 during the peak season (late spring and early fall). The trail begins as a 12 ft wide asphalt trail in Midland and expands to 14 ft wide outside the city. Pedestrians, bikers and skaters use the trail, and there is even a short segment for equestrian users. The trail is also accessible for those with limited mobility. Restrooms and parking are available at most of the trailheads. The trail links the cities of Midland, Sanford, North Bradley and Coleman, as well as many parks and recreation areas and unique ecosystems such as the Arbutus Bog. See Appendix M for contact information.

Minuteman Bikeway and Nashua River Rail Trail Run, Massachusetts

Beginning at the Alewife Station in Cambridge Massachusetts, the Minuteman Bikeway extends 11 miles through four communities, Cambridge, Lexington, Arlington and Bedford before ending at Depot Park. The trail is a 12 ft wide asphalt surface that is accessible at most at-grade street crossings. Restrooms and refreshments are available at the trailheads as well as nearby business districts. The Nashua River Rail Trail spans from Ayer to Groton to Pepperell to Dunstable at the New Hampshire border. The trail is 10 ft wide paved surface with a section of a five-foot wide gravel equestrian path for seven miles from Groton to Dunstable. The entire trail is open to pedestrians, bikers, skaters, skiers and wheelchairs. See Appendix M for contact information.

Omaha Recreational Trails, Nebraska

Omaha, Nebraska has developed one of the finest trail systems, containing over 80 miles of recreational trails. The trail is composed of a 12ft. concrete surface that is handy for walking, bicycling, jogging/running, skating and walking children in strollers. In addition to meeting recreational needs, Omaha's trails serve a transportation purpose. They connect neighborhoods,



schools, shopping areas and employment hubs. As a result, trails have become the transportation method of choice for many residents. See Appendix M for contact information.

Pinellas Trail, Florida

The Pinellas Trail in Pinellas County, Florida, is 34 miles long, stretching from Tarpon Springs to St. Petersburg. It was built on a corridor of an abandoned CSX rail line. The first section of the trail opened in 1990 and over the years, it has expanded into a corridor that links many of Pinellas County's parks, scenic coastal areas and residential neighborhoods. It gives people the opportunity to enjoy bicycling, walking, and in-line skating, among other activities. It is also accessible for people with disabilities. An average of 90,000 people use the trail every month. See Appendix M for contact information.

Impact of trails

Impact of trails on property values

A common opposition to trails in neighborhoods is the effect and perceived effect of trails on landowner's property value. Concerns of an increase in trespassing incidents or an increase in noise to the neighborhood culminate in a concern of property value. This concern has been so great as to warrant many studies analyzing the effect of trails on property values. This section will present the findings of studies based on the Pere Marquette Rail-Trail in Michigan, Minuteman Bikeway and Nashua River Rail Trail Run in Massachusetts, Pinellas County Trail in Florida as well as a studies on the Omaha, Nebraska's greenway systems.

The studies all concluded that the majority of residents near established trails felt that the trail had no impact or it actually increased the value of their home. The most interesting study finding was in Massachusetts where homes near the trail sold almost twice as fast as other homes away from the trail. In addition, in Omaha, over two-thirds of the residents who moved in after the trail was built said that the trail access positively influenced their purchase decision.

Pere Marquette Rail-Trail

In 2002, the Department of Park, Recreation and Tourism Resources at Michigan State University conducted a study on Pere Marquette Rail Trail. The project was funded by the Michigan Department of Transportation, and was designed to assess the perception of trailside residents about the maintenance of the Pere Marquette Rail Trail and its "influence on their and the county's quality of life."

The study was conducted by mailing out surveys with return postage paid envelopes to the surrounding residents and a longer survey for surrounding businesses. In addition, a follow-up reminder was sent to those who did not respond with another copy of the survey. The response of the survey was 60.6% of businesses and 56.7% of residents. The survey questioned the residents and businesses of the area on a variety of topics; ranging from basic demographic information such as income and employment to trail usage and support of the trail. The results of some of these questions are as follows:



Support for the Rail-Trail					
Business	Very opposed	Moderately Opposed	Neutral	Moderately supportive	Very Supportive
Idea of trail before it was built	2.40%	0%	30.10%	19.30%	48.20%
Trail construction process	3.60%	2.40%	42.20%	18.10%	33.70%
Trail today	0%	4.70%	11.60%	26.70%	57%

Figure 49 – Businesses’ support for the trail, Pere Marquette Trail Case Study

Support for the Rail-Trail					
Residents	Very opposed	Moderately Opposed	Neutral	Moderately supportive	Very Supportive
Idea of trail before it was built	9.30%	7.90%	34.00%	17.10%	31.40%
Trail construction process	7.40%	5.10%	50.70%	13.20%	23.50%
Trail today	7.00%	7.00%	11.20%	18.20%	56.60%

Figure 50 – Residents’ support for the trail, Pere Marquette Trail Case Study

Influence of Rail-Trail on Property		
Speed at which property would sell	Businesses	Residents
Faster	9.40%	27.70%
Slower	2.40%	3.40%
No Difference	88.20%	68.90%

Figure 51 – Influence of the Trail on Property, Pere Marquette Trail Case Study

Amount at Which Property Would Sell		
Amount	Businesses	Residents
More money	2.40%	18.40%
Less money	7.10%	4.80%
No Difference	90.60%	76.90%

Figure 52 – Amount at which property would sell, Pere Marquette Trail Case Study

Comparison of Rail-Trail to Abandoned Railroad Right-of-Way					
	Much worse	Moderately worse	Neutral	Moderately better	Much better
Businesses	0%	2.40%	16.70%	26.20%	54.80%
Residents	6.60%	5.30%	17.80%	15.80%	54.60%

Figure 53 – Comparison of Rail-Trail to Abandoned Railroad Right-of-Way
Pere Marquette Trail Case Study

The findings of this report show that there was some opposition to the trail before it was constructed and that opposition rose during the planning and construction phase. The end result today, however, is more supportive than ever before. The trail is perceived as valuable to the



community with 97% of businesses and 87% of residents preferring it over an abandoned right-of-way. While a majority anticipates no difference in the speed at which their properties would sell, 27.7% of residents view the trail as a selling point for their home and only 4.8% perceive the trail to have had a detrimental effect on their property value.

Pinellas Trail

The study conducted by Pinellas County Metropolitan Planning Organization on the impact of Pinellas Trail on the value of properties abutting the trail consisted of assessing home sales of single-family homes for 1990, 1995, and 1998. Data gathered was compared to the records of the countywide housing sales for the same three years. Using WinData2000 homes within a quarter mile from the Pinellas Trail were identified and separated into four market areas, these records were then compared to countywide sales records collected from the Pinellas County Housing Report and the University of Florida-Shimberg Housing Data.

This report concluded that property values “follow local sales trends initially and then increase a few years later.” The report also concluded that the “results clearly indicate that the trail does not negatively affect property values of adjacent homes, and suggests that the trail may help increase property values by roughly two percent to three percent annually.”

Minuteman Bikeway and Nashua River Rail Trail Run

In 2006, Craig Della Penna of The Murphys Realtors, Inc. analyzed the home sales records for the seven Massachusetts towns that these two trails run through. Using data from the Realtor® database from H3-MLSPIN, these home sales were then separated into homes that were near the rail trail and homes that were not near the rail trail.

Although some of the town’s listings were too specific to produce any significant general trends, in aggregate the listings produce notable results. The study found that homes near rail trails sold at an average of 99.3% of their asking price, and those homes not near rail trails sold for a similar but lower 98.1%. The more interesting statistic found in this study is that homes near the trail sold in 29.3 days on average, while homes not near the trails were on the market for an average of 50.4 days before being sold.



Home Sales near Rail Trails					
Town	No. of Properties Sold	Average List Price	Average Sale Price	Ratio of Sale to List	Days on the Market
Arlington	10	\$513,750	\$509,690	99.20%	27.1
Lexington	10	\$906,090	\$907,040	100.10%	18.5
Bedford	3	\$511,600	\$500,833	97.90%	55.3
Ayer	1	\$329,900	\$317,500	96.20%	47.0
Groton	2	\$689,900	\$675,000	97.80%	22.0
Dunstable	1	\$695,000	\$685,000	98.60%	20.0
Pepperell	3	\$385,833	\$376,333	97.50%	48.3
Average		\$643,180	\$638,377	99.30%	29.3

Figure 54 – Home Sales near Rail-Trail
Minuteman Bikeway and Nashua River Rail Trail Run Case Study

Home Sales not Near Rail Trails					
Town	No. of Properties Sold	Average List Price	Average Sale Price	Ratio of Sale to List	Days on the Market
Arlington	119	\$558,775	\$556,327	99.60%	28.3
Lexington	166	\$871,533	\$849,470	97.50%	54.4
Bedford	38	\$633,912	\$624,289	98.50%	42.4
Ayer	30	\$344,677	\$340,155	98.70%	73.0
Groton	53	\$605,198	\$584,689	96.60%	80.4
Dunstable	12	\$587,946	\$578,965	98.50%	83.2
Pepperell	57	\$384,818	\$379,482	98.60%	80.2
Average		\$645,607	\$633,072	98.10%	50.4

Figure 55 – Home Sales not Near Rail Trails
Minuteman Bikeway and Nashua River Rail Trail Run Case Study

Omaha Recreational Trail

Donald L. Greer, Ph. D. directed a study at the University of Nebraska, Omaha on how the recreational trails in the area affect property value and public safety. For this study, they selected three trails in Omaha based on a desire to evaluate trails that had both old and new housing, old and new trails, and residential areas connected to the trail system and areas that are disconnected. Through consultation with the Omaha Parks and Recreation Department, the three trails selected were West Papio, Keystone, and Field Club Trails. Using both mail and telephone surveying



techniques, the perceived effects of these trails on property value, public safety and quality of life in the community were reported.

When questioned about the trails effect on the price of home sales, 42% of respondents felt that the trail would increase the price, shown in Figure 56. In addition, 65% respondents also felt that the trail would make selling their home easier, displayed in Figure 57. Of the respondents who purchased their home after the construction of the trail, 63.8% reported that the trail positively influenced their decision making.

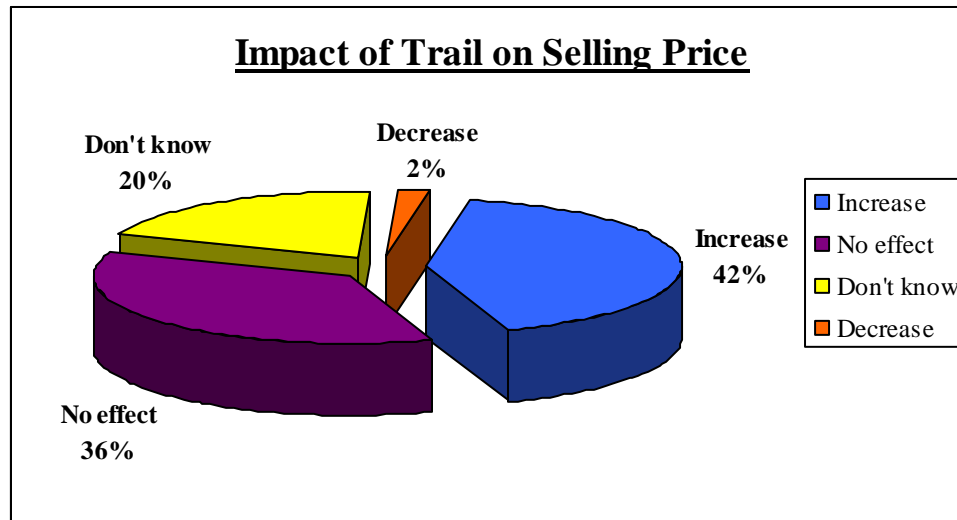


Figure 56 – Impact of Trails on Selling Price, Omaha Recreational Trail Case Study

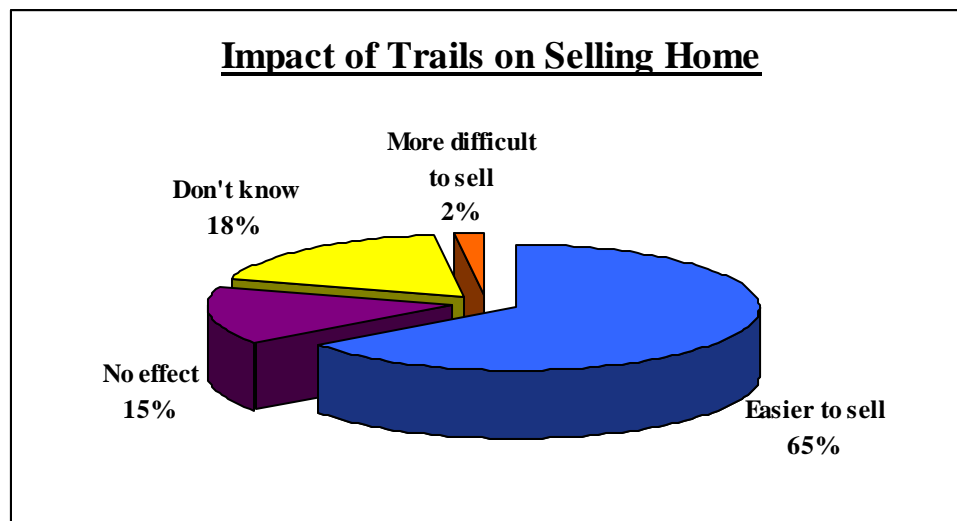


Figure 57 – Impact of Trails on Selling Home, Omaha Recreational Trail Case Study



Impact of trails on crime

Many adjacent landowners assume crime will go up if a trail is built near their property. While these fears seem reasonable, research that has been conducted to test this assumption has concluded that crime rates are actually lower along multiuse trails. The main reason for the lower crime rates is that these areas are used frequently and busy areas tend to discourage opportunistic crimes.

In this section, the findings of three case studies with regard to crime incidence are presented. Two case studies, Omaha, Nebraska and Pere Marquette, Michigan surveyed the sense of safety and security of residents adjacent to the trails. The Pinellas, Florida case study, analyzed crime rates along three sections of Pinellas Trails and compared the results with the crime rates at city at county level.

All the studies concluded that trails do not have an adverse impact on the residents' security. The crime events observed are infrequent and do not affect the sense of safety and security of residents. Also, the studies presented below indicate that the crime rates along trails are not statistically different from the crime rates on areas without a trail.

Omaha Recreational Trails

The study conducted by Dr. Donald L. Greer from University of Nebraska at Omaha in 2000 on effects of Omaha trails on property value, public safety and trail use concluded that trail development has been well received by residents who live adjacent to the trails. Property owners do not appear to have a widespread concern for their safety.

Trespassing, theft and vandalism by trail users were relatively infrequent events. Figure 58 shows that 4% of residents living adjacent to the trail reported trail-related theft. In addition, 4.7% of them reported property vandalism. According to the report, most of these incidents were relatively minor in nature.

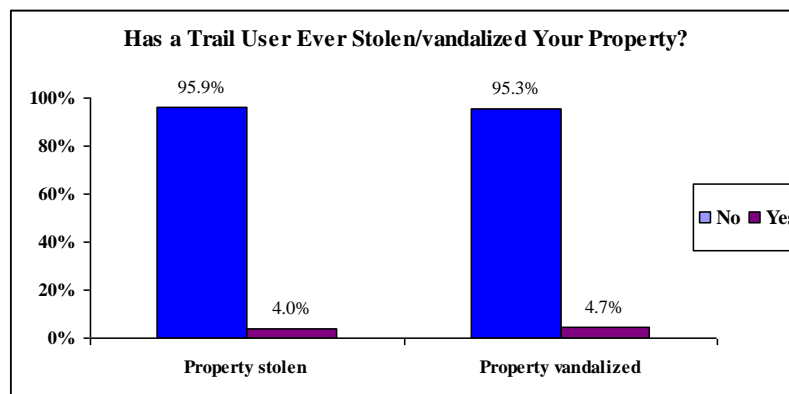


Figure 58 – Stolen/Vandalism on Property, Omaha Recreational Trail Case Study

The opposition to the trails by Omaha residents was minimal. Only one respondent out of 149 wanted to see the trail along their property closed. Only two residents reported having ever considered moving, but these two also are the same respondents who did not care for an adjoining skateboard facility. The major concern of the residents revolved around the increased congestion on



the oldest, most well connected and most successful trail that attracted users from outside its adjacent neighborhoods.

Pinellas Trail

The study conducted by Pinellas County Metropolitan Planning Organization on the perception of landowners adjacent to the Pinellas trail regarding the impact of the trail on property values evaluated also the impact on crime. The study was based on analyzing the reported crime data collected from Pinellas County Sheriff Department and from City of St. Petersburg Police Department for the years 1993, 1995, 1999. The study was conducted on a sample of three segments of the trail, all of which are located in City of St. Petersburg.

While data from the Pinellas County Sheriff Department were reported by location, the data from City of St. Petersburg Police Department were reported by crime tract (geographic boundaries created by the City of St. Petersburg to report and summarize crime statistics.) Therefore, the crime data from these sources were analyzed separately. For a minimum level of comparability, the crime reports at county and city level were summarized and tabulated as they would be for national crime reporting efforts. The following eight categories were used to aggregate the crime data: (1) murder; (2) forcible sex offenses; (3) robbery; (4) aggravated assault; (5) burglary; (6) larceny; (7) motor vehicle theft; and (8) other.

Crime data from the Pinellas County Sheriff Department indicate that crime rates along the trail are no different than elsewhere in the county. In 1993 and 1995, crime rates along the trail were lower than county-wide rates. In 1999 rates were still lower, but closer to the countywide average. No instances of murder and motor vehicle theft on the three identified segments were reported in 1993, 1995, 1999, whereas these crimes escalated countywide.

The most notable increases in trail-related crimes occurred in the aggravated assault and forcible sex offenses categories. Burglaries and robberies also appeared to increase over the study period rather than decline. The crime data were also examined in terms of time of day and location. The peak crime activity period appears to be from 3:00pm until 11:00pm. During this time of day, criminal activity peaked in 1995 and declined in 1999. In 1999, there were roughly 1.6 crimes per month along the selected segments. Higher use, may partly explain why crime rates continued to increase along the Pinellas Trail while countywide and statewide crimes rates steadily decreased.

Crime data collected from City of St. Petersburg Police Department was evaluated at crime tract level to determine whether crime tracts that contain or abut the Pinellas Trail were unsafe or attracted more crimes compared with those crime tracts that do not contain or abut the Pinellas Trail. The results of this comparison have some limitations. The method used to report crime data, made it difficult to determine where crime occurred because crimes were reported as aggregate numbers at crime tract level.

The average number of crimes per trail tract was 43.45 in 1993, 54.16 in 1995, and 58.97 in 1999. Burglary, simple assault, larceny (from vehicle) and larceny (other) were the most often reported crimes. The statistical t-test was used to determine whether the average calculated crime rates for the tracts along the trail are statistically different than the overall average crime rate in St. Petersburg. The results indicate that the crime rates along Pinellas Trail tracts are no higher than the overall crime rates. Not all crimes in these tracts are related to the use of trail. When further analysis on



causes of crimes is performed and the crimes are associated with other land uses, the number of incidents decreases. For example, if all other crimes were considered in the absence of shoplifting crime reports, the total trail tract crimes would decrease by 39%.

Pere Marquette Rail Trail

This study conducted by Department of Park, Recreation and Tourism Resources, Michigan State University in 2000 assessed resident perception about the influence of trail on the quality of life.

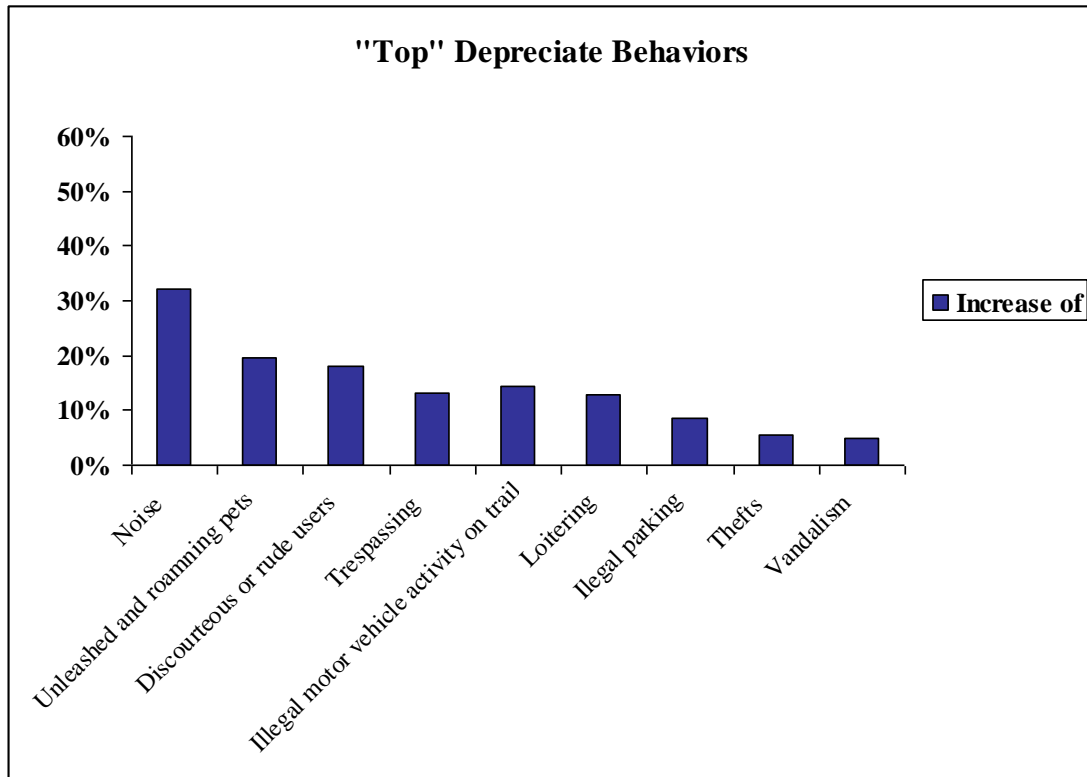


Figure 59 – “Top” Depreciate Behaviors, Pere Marquette Trail Case Study

Adjacent residents were asked to rate five management attributes of the trail, including sense of safety and security and to indicate any negative circumstances related to trail use. The study indicates that 19% of residents reported some forms of conflict. The most frequently mentioned crimes related to trail use are noise, unleashed and roaming pets, discourteous or rude users, trespassing, illegal motor vehicles activity on trail and loitering (Figure 59). These events are infrequent and they do not affect residents’ sense of security. Figure 60 shows that 89.9% of trailside residents who responded said that their sense of safety and security on the trail was moderate to very good.

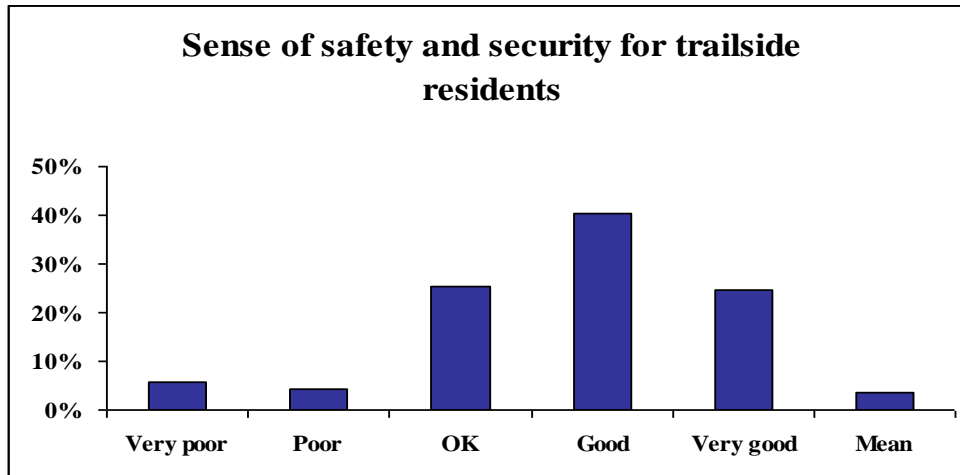


Figure 60 – Sense of safety and security for trailside residents, Pere Marquette Trail Case Study

The preceding case studies show the effects of trails on property value and crime on the communities around them. These do not show definitive proof but they do provide evidence in support of trails. The opinion polls in Michigan and Nebraska show that nearby resident support for a trail grows over time, and the studies on property value in Massachusetts and Florida show trails having no negative impact on property value. It is important to note that these case study trails traverse a variety of environments, and so their impacts cannot be used to give exact predictions but rather they provide an idea of how trails have worked for other communities.



VII. Recommendations

Introduction

The purpose of this section is to provide the proposed location of the trail and the rationale behind this decision. The section will also include information about estimated costs to acquire the land for building the trail, the current site conditions, opportunities to trail financing, possible marketing strategies and a list of stakeholders to be involved in building the trail.

Exact Trail Location and Rational, Access Points and Amenities

The GrandWalk Trail within the GrandWalk study area is a section of a longer proposed multi-use trail. This new trail would travel through the City of Grand Rapids and the City of Walker connecting the White Pine Trail on northeast and Musketawa Trail on northwest. It has been proposed to roughly follow and sometimes cross Indian Mill Creek and in some areas, the trail would follow an abandoned railroad grade. The proposed trail would link housing to business districts, recreational areas and natural areas nestled within surrounding development.

Selecting the best location for the trail presents some significant challenges, especially the negotiation of heavily traveled city roads, multiple railroad crossings, and parcel acquisition considerations. After extensive examination of the various paths, obstacles, boundaries, and by reflecting upon local trail-group efforts, the student group has developed a proposed route for the GrandWalk trail within the boundaries of the GrandWalk study area.

The proposed GrandWalk trail within GrandWalk, for purposes of discussion, has been split into three phases of development. The student group recommends that these phases be considered for their natural beginning and ending points within the context of the trail area. The three phases are proposed in geographic order from east to west, and represent logical segments for trail construction. Phase 1 describes the proposed route from the southernmost point of Riverside Park just east of the Grand River, alongside the Ann Street right-of-way, to the pedestrian bridge across Indian Mill Creek (just past the intersection of Ann Street and Will). Phase 2 begins at the pedestrian bridge and proceeds on primarily historic railroad corridor property until the proposed rest area stop at Richmond Park. Phase 3 would continue within railroad corridor property from Richmond Park before terminating at Bristol Avenue. For reference throughout this section, refer to the Points of Interest Map 12 on the following page.

Phase 1

The connection with the White Pine Trail was a primary influencing factor in the selection of the starting point or trailhead of the proposed GrandWalk Trail. A possible future trail connecting GrandWalk with the White Pine Trail is preliminarily proposed by the student group for placement on both the east and west sides of the Grand River. As Map 9 shows, the White Pine Trail ends at North Park Street, a couple of miles northeast of GrandWalk. The construction of a proposed trail on the west side of the river between the White Pine trail and Indian Mill Creek is constrained by the active railroad operated by CSX. Research has indicated CSX would not donate, sell, lease or grant an easement for recreational uses alongside active railroads. This is due mainly to increased safety risks and liability concerns. In addition, the above grade US 131 highway runs north/south parallel to the CSX line on the west side of the Grand River. The combined right-of-way taken by



Insert Map 12
Points of Interest Map



Insert Map 13 here
GrandWalk Parcel Detail Map 1



Insert Map 14 here
GW Parcel Detail Map 1 ortho



the railroad and highway would force a proposed trail further inland away from the river and its vistas. Therefore, a more feasible alternative route for the trail may be on the east side of the Grand River, through Riverside Park, where some segments of the proposed Riverside Park trail have already been constructed (see Map 9 - segment of the Proposed Riverside Park Trail that ends on Ann Street). The proposed Riverside Park Trail would connect with the White Pine Trail at the North Park Bridge and then follow the east side of the Grand River south to Ann Street. Where the proposed Riverside Park trail would terminate at Ann Street, the proposed east/west GrandWalk trail would begin (see Map 13). In addition to the GrandWalk trail, the Riverside Park trail would connect with another proposed City of Grand Rapids trail that would continue the north/south Riverside Park trail further south until it reaches the Canal Street Park Trail. (See Map 9)

The proposed GrandWalk Trail would begin at the intersection of Proposed Riverside Park Trail with Ann Street and the first trail access point for the proposed trail would be built at this intersection (see Map 12 Point 1 and Map 19). The proposed GrandWalk trail would proceed west from this access point on the north side of the Ann Street Bridge, crossing over the Grand River. This bridge will need to be expanded to accommodate a pedestrian path in the future.

At the intersection of Ann Street and the US 131 Ann Street exit (Map 12 Point 2), in front of the Radisson Hotel, there is presently a signalized crosswalk that could be used by trail users to cross from the north side of the street to the south side safely. In this way, crossing a heavily used intersection (the Ann Street exit) will be avoided (see Map 12). Furthermore, at this point in the trail, the Radisson hotel represents a great asset. The hotel could be used as part of a marketing strategy to attract trail tourists utilizing the trail connections as well as the attractions within the cities of Grand Rapids and Walker. Therefore, it is suggested that the trail pass directly in front of the hotel on the south side of Ann Street. The Radisson Hotel access point would also provide a potential parking area for trail users (see Map19).



Figure 61 – Proposed Crossing of the Intersection of Ann Street with US 131 Exit



A signalized crosswalk should be installed directly in front of the Radisson Hotel access road to ensure a safe crossing of the street. After crossing the US 131 Ann Street exit in front of the Radisson Hotel, the trail is proposed to continue west underneath the US 131 interchange, following the south side of Ann Street (see Map 13). Currently, the space beneath the interchange used for pedestrian access is narrow and unpaved, and eventual expansion to accommodate the trail should be considered.

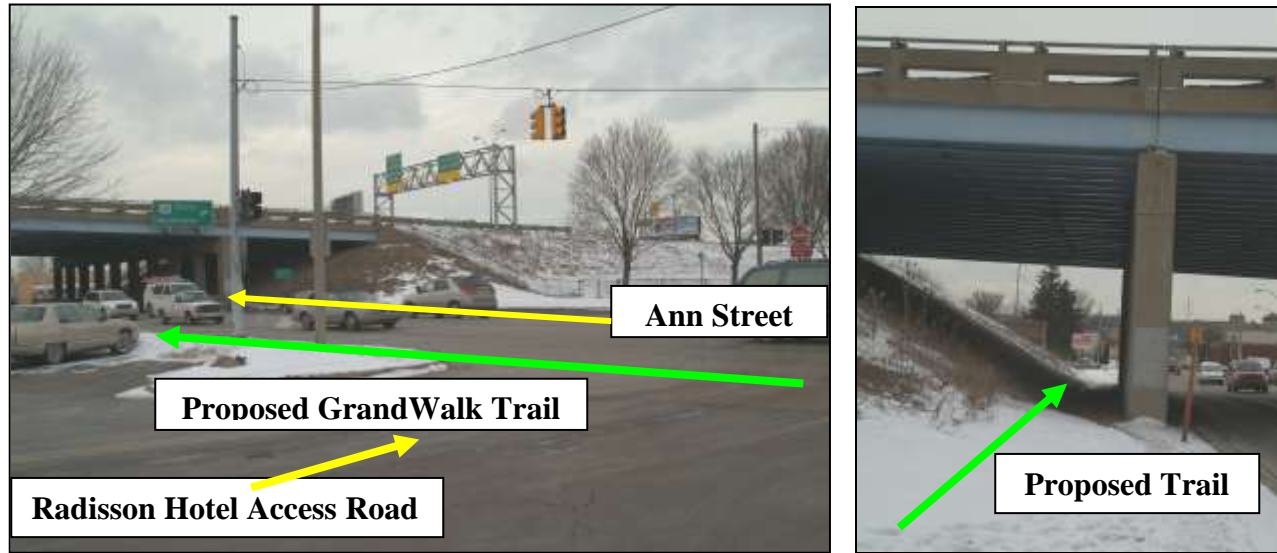


Figure 62 – Proposed trail going along south side of Ann Street underneath US 131 interchange

The sidewalk along the south side of Ann Street would need be redesigned to accommodate all categories of trail users and designed to protect them from traffic and possible accidents. Figure 63 shows that there is a large space on this side of the road that could easily accommodate the trail, although street crossings would need to be assessed by traffic engineers for safety.

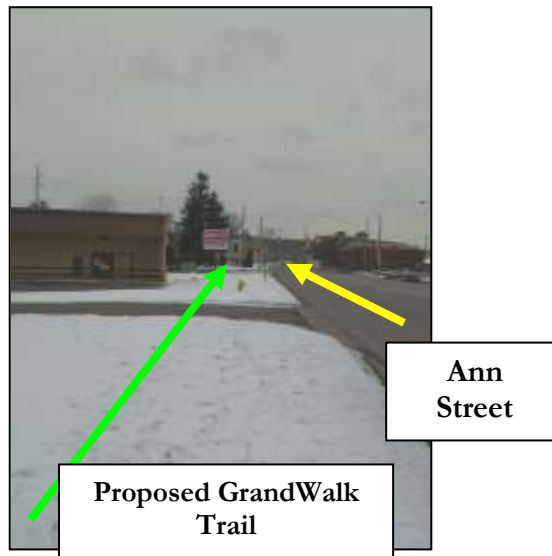


Figure 63 – South side of Ann Street



Another major intersection that would challenge trail construction is the intersection of Ann Street with Turner Avenue (see Map 12 Point 3). Presently the intersection is signalized, but it is heavily traveled by the employees and customers of businesses located in the area. The intersection is within the proximity of several important companies, such as Havilland Enterprises Inc. and Baker Auto Parts. These businesses attract and generate a high volume of traffic making the crossing of Turner Avenue difficult for pedestrians. Therefore, placement of additional signage and pavement markings would be recommended on both the roadway and trail to alert motorists and trail users to the presence of the intersection. Figure 64 shows the proposed crossing of this intersection.



Figure 64 – Intersection of Ann Street with Turner Street

The proposed GrandWalk Trail would continue to follow the south side of Ann Street through the intersection with Turner Street Avenue, however after the Ann Street intersection with Turner Street, it is recommended that the GrandWalk trail utilize one of the four Ann Street lanes (Map 12 Point 4). Formal traffic engineering is obviously required, but it is suggested that this street segment can most likely be reduced to three lanes (two through lanes with a center turn lane) without negatively impacting traffic. Using the current lane width for the trail may also be necessary for trail construction, instead of expanding south towards Indian Mill Creek, because there is an active railroad line that runs parallel to the creek in this area. It is not anticipated that the railroad company will be willing to sell, donate, lease or grant an easement for trail construction. Phase 1 of the proposed trail would end at the pedestrian bridge over Indian Mill Creek, just off of Ann Street (see Map 12 Point 5 and Map 13).



Figure 65 – Proposed GrandWalk Trail following the south side of Ann Street

Phase 2

Phase 2 of the proposed GrandWalk trail would begin at the pedestrian bridge and continue west before ending at Richmond Park. A pedestrian bridge currently exists over Indian Mill Creek that could be used to cross to the south side of Indian Mill Creek. Just before the bridge, however, an active railroad line will need to be traversed. This railroad crossing can be done safely by installing special signals and adjusting the trail surface for an at-grade crossing. This railroad crossing would require an easement over land owned by the Grand Rapids & Eastern Railroad. After crossing over the railroad tracks and the pedestrian bridge, the trail would continue west over property owned by Consumers Energy on the south banks of Indian Mill Creek. Another easement will need to be acquired to traverse this parcel. The picture below shows foot traffic in the snow that follows this route very closely, reinforcing the concept that this is a preferred route.

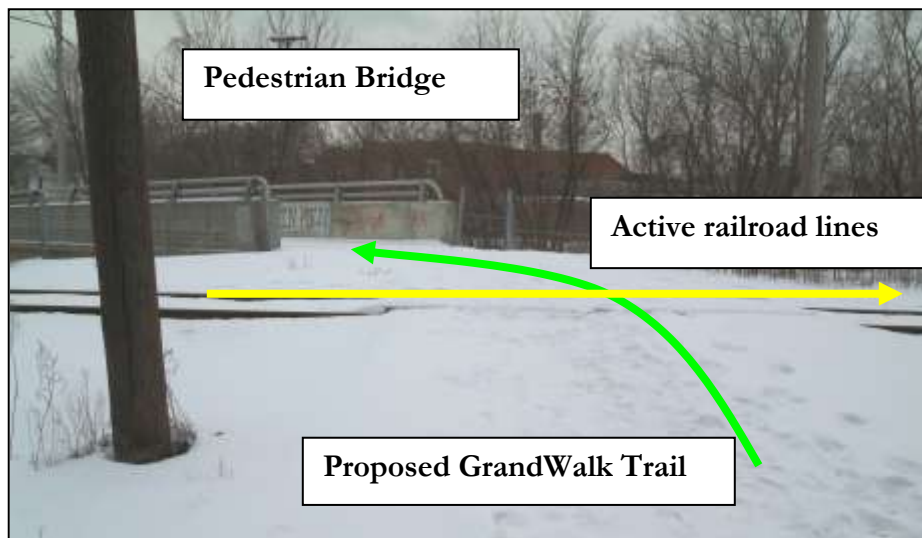


Figure 66 – Proposed GrandWalk Trail crossing over the railroad tracks to the pedestrian bridge



Insert Map 15
GW Parcel Detail Map 2



Insert Map 16 here
GW Parcel Detail Map 2 ortho



Proceeding west, the trail would briefly cross another railroad parcel requiring an easement purchase. Just west of this property is a larger lot that currently belongs to the City of Grand Rapids (see Map 20 and Map 21). This parcel contains the junction of several active and inactive railroad tracks that must be accommodated (Map 12 Point 6). An at-grade crossing is generally not permitted by the railroad companies and is not recommended in most instances for safety reasons by municipalities. Therefore, it is proposed that a ramped overpass be utilized to cross above the three railroad crossings. The overpass would have a gentle incline and decline appropriate for handicapped users, as well as bikers and rollerbladers. The overpass could also be safely engineered to withstand the weight of snow and snowplow equipment.



Figure 67 – Railroad tracks that will be crossed by the trail

Continuing west, the next segment of the proposed trail would enter property controlled by the Pennel Company (see Map 15). Currently the parcel is covered with salvage yard material, and significant landscape improvements would be required to relocate the parts and eventually block the view of salvage materials from trail users as they walk alongside the creek. It is anticipated that a Phase I environmental assessment of this parcel and several others will be recommended prior to engineering and construction, due to potential soil contamination from auto part storage adjacent to the creek.



Figure 68 – View of a salvage yard as it can be seen by a person walking on the trail



Proceeding west alongside the south side of Indian Mill Creek, the proposed trail path would travel through another Pennel Company parcel before reaching Alpine Avenue (see Map 12 Point 7). Alpine Avenue is one of the busiest commercial corridors within the GrandWalk area. Both Meijer and Home Depot are located on the northern part of Alpine Avenue and bring hundreds of customers every day. It is important to note that Alpine Avenue provides access to Fairview Elementary School, further contributing to street traffic, but also potentially increasing the number of possible trail users. Therefore, the crossing over Alpine Avenue should either be carefully signalized for pedestrians, or another gentle incline overpass should be installed above the intersection. Crossing beneath Alpine Avenue alongside Indian Mill Creek (either the north or south side) is not feasible at this intersection. The clearance between the creek water surface and the underside of the motorized bridge is too narrow to allow for pedestrians.



Figure 69 – Alpine Avenue intersection crossing requiring either extensive signalization or a ramped crossing

After crossing Alpine Ave, the proposed GrandWalk trail would continue west following the south banks of Indian Mill Creek (see Map 15). The GrandWalk trail section beyond Alpine would continue to follow the abandoned Grand Rapids and Indiana railroad corridor through parcels currently owned by Pennel before ending at the proposed Richmond Park rest area (see Map 12 Point 8 and Map 19)

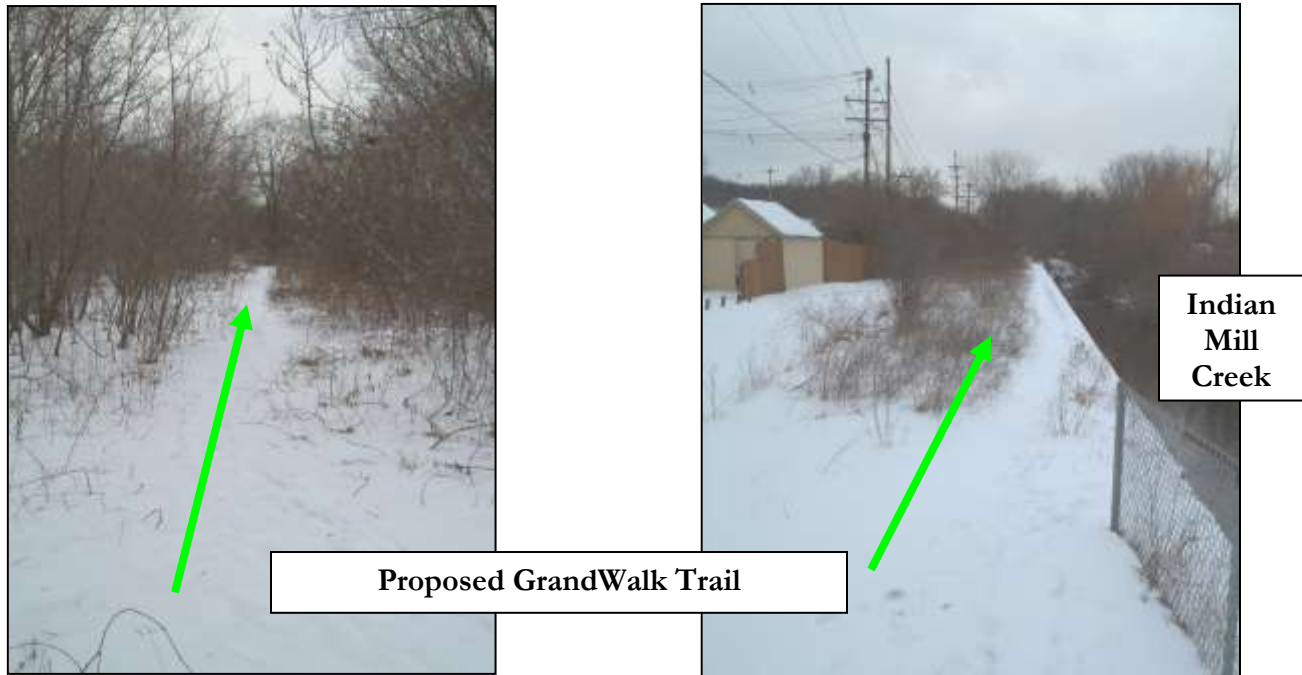


Figure 70 – Proposed GrandWalk Trail following Indian Mill Creek on the former railroad bed

Phase 3

Following the creek, the trail would pass just north of the City of Grand Rapids recreational area: Richmond Park. This park would serve as major recreational attraction for the trail users. Pavilion picnic shelters, a swimming pool, play-ground for children, and a proposed rest area would be offered at this trail destination (see Map 17 and Map 12). The hill located next to the park is even used for sledding during the winter. Richmond Park would be a primary access point with parking and restrooms (see Map 19). After a break at the park, the potential trail users would continue along the proposed GrandWalk trail as it proceeds west along the abandoned railroad corridor (see Map 17). Beyond Richmond Park to the west the trail would cross an existing railroad trestle over Indian Mill Creek that could offer a scenic outlook for trail users. This historic infrastructure could be reused to offer both interest and utility for a creek crossing (see Map 17 and Map 12 Point 9). At this point, the trail would diverge from the creek to continue within the railroad corridor before reaching Bristol Avenue (Map 12 Point 10).



Insert Map 17
GW Parcel Detail Map 3



Insert Map 18
GW parcel detail map 3 ortho



Figure 71 – Richmond Park

The GrandWalk study area westernmost boundary is Bristol Avenue, therefore phase three of the proposed GrandWalk trail would conclude at this point as well. (See Map 17) Bristol Avenue offers the final access point from the west for this portion of the GrandWalk trail (see Map 12 Point 10). As previously mentioned, the proposed GrandWalk trail is designed as one part of a larger trail system that would connect White Pine Trail with Musketawa Trail (see Map 9). Several scenarios for connections to the Musketawa trail through the City of Walker have been proposed, but a final determination of this trail route has yet to be determined. It is recommended that immediately after the trail terminates at Bristol Avenue, a path continue south alongside Bristol right-of-way before entering land controlled by West Catholic High School and the Diocese of Grand Rapids. The trail could then continue northwest continuing to follow the abandoned railroad corridor and staying relatively close to Indian Mill Creek for much of the way.

Rest Areas, Access Points, Interpretive Signage, and Ramped Crosswalks

Rest Areas

The success of a trail depends not only on its location and design, but also on the support facilities that are provided for trail users at regular intervals along the trail. Best practices derived from other trails recommend clustering support facilities, such as restrooms, drinking fountains, trash bins and picnic areas into central rest areas (Clinton River Trail Master Plan 2003). Grouping these amenities makes them more visible and recognizable to trail users, reduces the environmental impact of the facilities, and can minimize degradation of the trail in areas alongside the river. Utilization of existing restrooms and parking areas, especially at Richmond Park, may reduce the cost of trail construction and maintenance. See Map 12.

A rest area includes the following elements: restrooms, car parking area, orientation kiosk, trash/recycle bins, water fountains, compressed air for bikes, bike racks, benches, picnic areas, and a



Insert Map 19
GW Access Map



donation box (for those who want to financially support the trail) (Clinton River Trail Master Plan 2003). A rest area is likely a starting point for a visitor from out of town and will provide support for those spending an extended period of time on the trail. It is common to plan a rest or access points for every 1-3 miles along the length of a trail.

Access Points/Access Points with Parking

An access point provides a minimum of amenities and is typically used by people familiar with the trail or who are generally more self sufficient. An access point typically provides orientation signs and trash/recycle bins, as well as a marked trail entrance. The orientation signs should provide two types of information: a map of the trail to let the users know where they are within the trail system and a road map with the names, distances, and directions to immediate landmarks.

Access points along the GrandWalk trail would be provided at the end of the proposed Riverside Park Trail, Alpine Avenue, and Bristol Avenue. Access points with the addition of motor vehicle parking would potentially be located at the Radisson Hotel, at the pedestrian bridge along Ann Street. See Map 12.



Figure 72 – Example of an Access Point with Parking

Interpretive signs

Interpretive signs along the GrandWalk Trail can give the trail a unique character and increase user appreciation of the history of the area. There are many different opportunities for interpretation along the trail. The natural and cultural history of the Indian Mill Creek can be highlighted. This



could include providing interpretation of historically significant points along the trail, such information about the original mill stones retrieved by John Ball, educational material about environmental phenomenon or local animal habitats, as well as over the historic railroad trestle west of Richmond Park. General guidelines for the design of the interpretive signs can be found in Appendix N, O, and P.

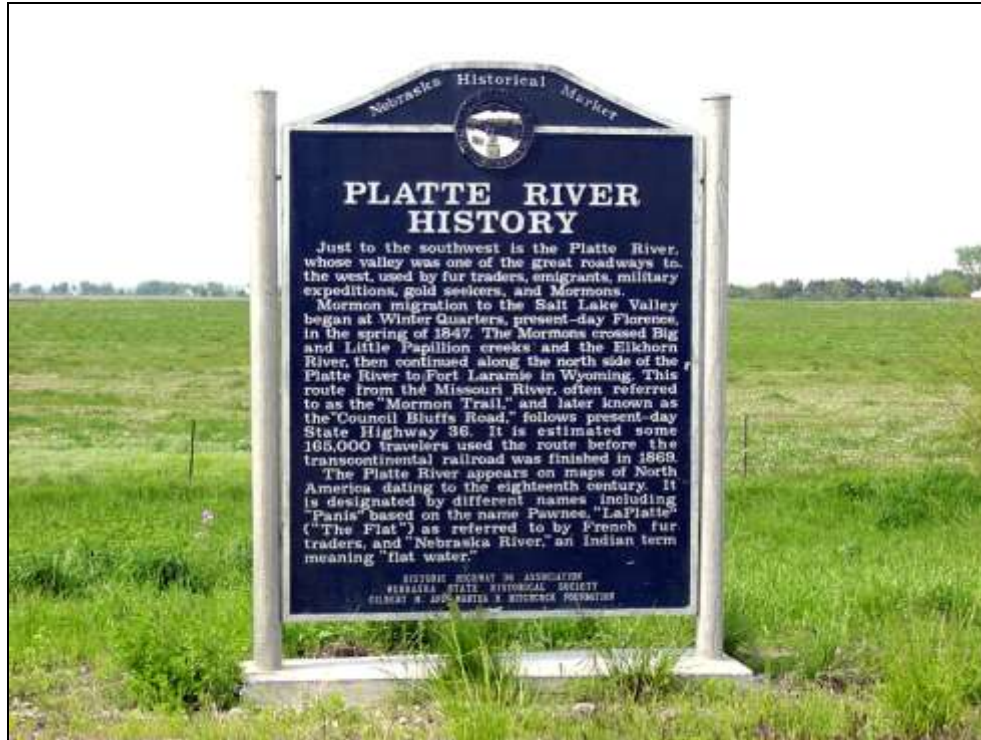


Figure 73 – Example of a Trail Interpretive Sign

Ramped Overpasses

When the trail intersects the roadway, a ramped overpass is the safest alternative for busy intersections. Ramped overpasses, if used for the GrandWalk trail, would be straight and have very gentle inclining and declining ramps to accommodate wheelchairs, bikes, strollers, and rollerbladers. These ramps would need to be engineered to accommodate the width and weight of snow plows and should be conveniently designed for pedestrians. The raised crosswalk should be perceived by users as the preferred method for crossing busy intersections. Raised crosswalks are also recommended for crossing the active railroad tracks.

Steps of Development

There is tremendous detail to consider for a trail project of this type in such a unique setting as the GrandWalk area. It will be helpful to review the basic process of developing a trail apart from the many, specific elements, challenges and characteristics that are present. This section will examine the fundamental phases of development in order to highlight the coordinated effort that needs to be present even before individual details are addressed. The information that was previously provided in the area profiles and other location characteristics of GrandWalk will encourage some foresight beyond the simplified outline presented here.



The process of developing a trail from a railway has many challenges but often generates rewards that are significantly greater than the sacrifices made to bring about its existence. The journey from a concept to a completed pathway bustling with traffic goes through a series of steps in the development process. It is important to regard the entire process as a succession of events that lead to the creation of a functional trailway.

The origin of any trail begins with a vision. Ever since May Theilgaard Watts composed her letter in 1963 that led to the Illinois Prairie path and inspired the Rails-to-Trails movement countless others have shared similar visions. Her letter to the editor of the Chicago Tribune, proposing that an abandoned railroad right-of-way be converted to a walking trail began: “We are human beings. We are able to walk upright on two feet. We need a footpath.” (Nature Study Guide website) Fortunately, others following her have possessed a similar determination and tenacity in seeing such ideas come to fruition.

It is no mystery that tremendous, community support needs to be garnished for such proposals. “Trails and greenways are community-based projects, because every project needs community support to be a success.” (Rails-to-Trails website) The broad benefits of trails appeal to many individuals and groups and a vision for one can quickly become one held by the community at large.

Advocacy is the next step that rises up from a pool of supporters. Individuals are needed to speak out and take action to move the plan forward. This can be accomplished by joining forces with existing local governments and non-governmental groups or by incorporating a new organization with documented bylaws allowing for fundraising activities as a non-profit organization.

Creating the space for a trail will require the acquisition of land that is “already in public ownership or the ownership of a single company or individual, have multiple owners, or have uncertain ownership status. In each case, there is a variety of tools available to trail advocates to work to make such lands available for public use as trails and/or preserved greenway space.” (Rails-to-Trails website)

A widespread recognition of the benefits of trails has made it possible to raise funds for future trails through a number of sources. This step in the process is a necessary one and not without its difficulty. “Funding trails and greenways takes a bit of ingenuity and a lot of research.” (Rails-to-Trails website) Fortunately, trails across the country have been funded through a variety of strategies and mechanisms providing several examples for completing this part of the process.

Opposition to trail plans is at times unavoidable and adds another, unfortunate step in our process. “Everyone who has built or used a trail or greenway knows and understands the benefits of trails and greenways to communities, whether it be positive economic impacts, environmental conservation or public health benefits. Nonetheless, some projects run into opposition. However, in some cases, opponents are now trail advocates. The key to turning initial opposition into support is to plan properly, anticipate concerns and obstacles create strong partnerships and involve the public early in the process.” (Rails-to-Trails website)

The point at which trail designs are created the level of excitement seems to increase as the original vision now appears in graphic form. “Designing a trail or greenway can be a lengthy, complicated process, but good, foresighted design is essential to the success of such projects.” (Rails-to-Trails



website) Many times additional expertise and instruction is needed for an optimal design application. “Trail and greenway designers rely upon several comprehensive and authoritative resources which provide guidelines and standards.” (Rails-to-Trails, acquired 2007)

The final step of building the trail should be directly linked to considerations for future management and maintenance. “Before a trail or greenway is constructed, there should be a plan in place for its future, including answers to these key questions:

- Who will manage the trail or greenway?
- How will funds for maintenance be secured for future years?
- How is the trail or greenway protected in the face of potential change in uses of adjacent land?
- What is to happen if someone else wants or needs to share or cross the trail or greenway corridor?
- How will the safety of trail users be ensured every hour of every day all year long?

How these questions are answered will affect how the trail or greenway should be designed. There are many possible answers to all of these questions, and no surefire strategy for long-term trail success. What is certain, however, is that at all times trail and greenway planners must “look toward the future.” (Rails-to-Trails website)

From start to finish the process of developing a trail has the community in focus. Not only for bringing about the numerous benefits provided by this amenity but for the continuance of its existence as a reliable asset for area residents.



GrandWalk Trail Parcel Acquisition and Estimated Costs

After extensive examination of various paths, obstacles, boundaries, and by taking into consideration previous trail-group efforts, the proposed route of the GrandWalk trail has been preliminarily delineated by the students. Tax assessor and easement information were used in order to generally estimate the cost of acquisition for properties that make up the GrandWalk trail, within the study area. This analysis is an informal application of an “across the fence” appraisal, or a valuation of the corridor parcels by a comparison with similar property near the area (Rails-to-Trails, Due Diligence). A formal title search followed by a professional appraisal is necessary before any acquisition negotiations are initialized.

Much of the route is alongside existing road right-of-way on Ann Street, however parcel acquisition is necessary for the trail to follow the abandoned Grand Rapids and Indiana railroad corridor and Indian Mill Creek. See Map 20. Figure 74 shows property information as well as the type of acquisition required. The acquisition type was determined on a parcel by parcel basis. Parcels that required minimal square footage for a trail crossing were considered easements instead of outright purchases; the exception being, a parcel belonging to Consumers Energy. Consumers Energy has no buildings on the parcel in question, so ownership of the land is likely linked to underground piping. A surface trail would most likely only require an easement as opposed to a purchase of the land, even though it would take up a great deal of the parcel square footage.

OWNER NAME	SITE ADDRESS	GOVERNMENTAL UNIT	PROPERTY CLASS	ACQUISITION TYPE
G R EASTERN RAILROAD INC	1930 ALPINE AVE NW	City of Grand Rapids	701 - Exempt - Improved	Easement
CONSUMERS ENERGY	1781 BROADWAY AVE NW	City of Grand Rapids	302 - Industrial - Vacant	Easement
CHESAPEAKE & OHIO RY	611 LEONARD ST NW	City of Grand Rapids	701 - Exempt - Improved	Easement
CITY OF GRAND RAPIDS	612 LEONARD ST NW	City of Grand Rapids	702 - Exempt - Vacant	Previously Owned
PENDEL COMPANY	1830 ALPINE AVE NW	City of Grand Rapids	701 - Exempt - Improved	Purchase
PENDEL COMPANY	1830 ALPINE AVE NW	City of Grand Rapids	PARCEL STATUS INACTIVE	Purchase
PENDEL COMPANY	1937 ALPINE AVE NW	City of Grand Rapids	701 - Exempt - Improved	Purchase
PENDEL COMPANY	1937 ALPINE AVE NW	City of Grand Rapids	701 - Exempt - Improved	Purchase
CONRAIL RR	1831 ALPINE AVE NW	City of Walker	702 - Exempt - Vacant	Purchase
CL FROST INC	1980 BRISTOL AVE NW	City of Walker	302 - Industrial - Vacant	Purchase

Figure 74 – Owner Name and Parcel Acquisition Type

Of the ten parcels that must be obtained, it is anticipated that six must be purchased outright and three will require easements. Fortunately, one of the parcels that the proposed trail route would transverse is already owned by the City of Grand Rapids. Of the six parcels to be purchased, five are currently owned by rail companies (Pennel or Conrail) and one belongs to a private landowner (C.L. Frost.) Two of the three easements are also from rail companies, the Grand Rapids Eastern Railroad and the Chesapeake & Ohio rail company, which is actually part of CSX railroad. The final easement that must be acquired is through land that belongs to Consumers Energy.

Estimating Property Acquisition Costs

For many of the parcels researched, current State Equalized Values or Taxable Values were unavailable. This indicates that several of the parcel owners, particularly the rail companies may no longer be paying taxes for this land. Only two property owners had recorded tax information: Consumers Energy and CL Frost.



Insert Map 20 here
GW Parcel Acquisition Map



Insert Map 21 here
GW Parcel Acquisition Map ortho w/ access points



OWNERNAME	SITE ADDRESS	ACQUISITION TYPE	CURRENT SEV	CURRENT TAXABLE VALUE	EST. DIMENSION	EST. ACRES
G R EASTERN RAILROAD INC	1930 ALPINE AVE NW	Easement	N/A	N/A	152,000 sq ft	3.49
CONSUMERS ENERGY	1781 BROADWAY AVE NW	Easement	6000	4750	7,500 sq ft	0.17
CHESAPEAKE & OHIO RY	611 LEONARD ST NW	Easement	N/A	N/A	73,500 sq ft	1.69
CITY OF GRAND RAPIDS	612 LEONARD ST NW	Previously Owned	N/A	N/A	146,000 sq ft	3.35
PENDEL COMPANY	1830 ALPINE AVE NW	Purchase	N/A	N/A	49,500 sq ft	1.14
PENDEL COMPANY	1830 ALPINE AVE NW	Purchase	N/A	N/A	72,750 sq ft	1.67
PENDEL COMPANY	1937 ALPINE AVE NW	Purchase	N/A	N/A	99,750 sq ft	2.29
PENDEL COMPANY	1937 ALPINE AVE NW	Purchase	N/A	N/A	102,000 sq ft	2.34
CONRAIL RR	1631 ALPINE AVE NW	Purchase	N/A	N/A	90,000 sq ft	2.07
CL FROST INC	1900 BRISTOL AVE NW	Purchase	4900	3340	42,500 sq ft	0.98

Figure 75 – Current SEV Data and Estimated Parcel Square Footage

In order to help calculate the cost of each outright purchase or easement, the total square footage of each of the parcels was estimated using Geographic Information System tools. This information was combined with City of Grand Rapids and City of Walker Assessor estimates of the price per square foot of industrial land in these two cities. The Grand Rapids Assessor estimated a value of \$1.50 to \$2.50 per square foot for industrial land, while the City of Walker Assessor estimated a value of \$1.89 to \$2.37 for industrial land. Using the highest and lowest of these estimates (\$1.50 and \$2.50) and the estimated square footage calculated with GIS, the total cost for each parcel was determined. Of the six parcels that must be purchased, it is important to note that most likely the entire parcel would be utilized by trail paths and facilities. The parcels to be purchased make up the abandoned rail corridor and are long and skinny with widths only between 50 and 75 feet. With an average width of at least 10 feet, it follows that the entire 50 foot wide parcel would need to be purchased for trail development.

To calculate the cost for the three parcels with easements, the estimated parcel cost was multiplied by .20 (20%) and .25 (25%) for the low and high estimates for cost. The easement estimates were general guidelines suggested by the City of Walker Engineering Dept. To calculate the easement cost for the Consumers Energy parcel, the current SEV was doubled and multiplied by the low and high estimates for easement costs (20% and 25%.)



OWNERNAME	SITE ADDRESS	ACQUISITION TYPE	ACTUAL COST	PARCEL COST - \$1.50/sq ft	PARCEL COST - \$2.50/sq ft	EASEMENT COST - 20%	EASEMENT COST - 25%
G R EASTERN RAILROAD INC	1930 ALPINE AVE NW	Easement	N/A	\$228,000	\$300,000	\$62,776	\$78,470
CONSUMERS ENERGY	1781 BROADWAY AVE NW	Easement	\$13,600				
CHESAPEAKE & OHIO RY	611 LEONARD ST NW	Easement	N/A	\$110,250	\$183,750	\$30,350	\$37,943
CITY OF GRAND RAPIDS	612 LEONARD ST NW	Previously Owned	N/A	\$146,001	\$365,000		
PENDEL COMPANY	1830 ALPINE AVE NW	Purchase	N/A	\$74,250	\$123,750		
PENDEL COMPANY	1830 ALPINE AVE NW	Purchase	N/A	\$109,125	\$181,875		
PENDEL COMPANY	1937 ALPINE AVE NW	Purchase	N/A	\$149,625	\$249,375		
PENDEL COMPANY	1937 ALPINE AVE NW	Purchase	N/A	\$153,000	\$255,000		
CONRAIL RR	1831 ALPINE AVE NW	Purchase	N/A	\$135,000	\$225,000		
CL FROST INC	1980 BRISTOL AVE NW	Purchase	\$9,800				

Figure 76 – Calculated Cost of Acquisition for Parcels and Easements

With a price per square foot estimate of \$1.50 and easement costs of 20% of the total parcel value, the estimated cost for parcel assembly is \$883,527. Using the highest estimates of \$2.50 per square foot of industrial land combined with easements of 25% of the total parcel value, the estimated cost for parcel assembly is \$1,539,813. (Figure 77)

OWNERNAME	SITE ADDRESS	ACQUISITION TYPE	CONSERVATIVE COST ESTIMATE	LIBERAL COST ESTIMATE
GR EASTERN RAILROAD INC	1930 ALPINE AVE NW	Easement	\$62,776	\$78,470
CONSUMERS ENERGY	1781 BROADWAY AVE NW	Easement	\$13,600	\$13,600
CHESAPEAKE & OHIO RY	611 LEONARD ST	Easement	\$30,350	\$37,943
CITY OF GRAND RAPIDS	612 LEONARD ST	Previously Owned	\$146,001	\$365,000
PENDEL COMPANY	1830 ALPINE AVE	Purchase	\$74,250	\$123,750
PENDEL COMPANY	1830 ALPINE AVE	Purchase	\$109,125	\$181,875
PENDEL COMPANY	1937 ALPINE AVE	Purchase	\$149,625	\$249,375
PENDEL COMPANY	1937 ALPINE AVE	Purchase	\$153,000	\$255,000
CONRAIL RR	1831 ALPINE AVE	Purchase	\$135,000	\$225,000
CL FROST INC	1980 BRISTOL AVE NW	Purchase	\$9,800	\$9,800
TOTAL COST			\$883,527	\$1,539,813

Figure 77 – Total Cost Estimates for Parcel Acquisition

Both of these estimates could be considered conservative and are most likely higher than actual negotiations would yield. Railroad corridor parcels (Penndel and Conrail) are irregularly shaped (long and thin), built on unimproved land (no water/sewer access), and land-locked (except at street intersections). These qualities reduce the value of corridor property, and a professional appraiser would adjust down parcel prices accordingly (Rails-to-Trails, Due Diligence). However for purposes



of this study, the most conservative estimates hopefully provide an important baseline for future GrandWalk trail acquisition discussions.

See Maps 20 and 21 for detailed parcel and acquisition visuals.

Current Site Conditions

Nearly all of the parcels in question are of such shape and orientation that their history as a unified railroad is evident. The width of each parcel varies from 50 feet to 75 feet, while the length changes from parcel to parcel. Much of the terrain remains adequately graded from the railroad, perhaps decreasing some of the construction costs.

Currently, easements for three of the parcels in question (one Pennel parcel, the Conrail parcel, and the CL Frost parcel) have already been acquired by the City of Grand Rapids and the City of Walker to update and extend sewer service to Walker residents during the summer 2007. The extended sewer line would follow the abandoned railway path on exactly the same route as the proposed trail and would be topped with gravel for service truck access. This easement however is solely for the sewer. A second easement, that would occupy virtually the same physical space, must be purchased for a recreational trail. However, the opportunity that a gravel pathway through these parcels presents is remarkable. Currently, the graded corridor is used informally as a trail by many area residents. With the addition of a gravel top this informal recreational use is expected to increase. Property owners abutting the abandoned rail corridor who might oppose a trail easement near their homes may be persuaded to accept such a trail after installation of a useful gravel walkway.



Trail Financing Options

In order to develop the GrandWalk trail, five main components must be financed: Feasibility Study, Parcel Acquisition, Engineering, Construction, and Maintenance. The development of a financing strategy for each component is essential in order to best coordinate private and public funding sources.

Feasibility Study

A formal Feasibility Study is the first step towards securing the eventual construction of the GrandWalk trail. This study would provide information on every imaginable strength and weakness, pro or con of various trail paths within an identified area. Property information, environmental considerations, aesthetics, and ultimately the cost of routes are examined in order to develop the most ideal trail pathway. To finance a feasibility study, primarily two funding sources are available: private money (donations, foundation grants, etc.) and public transportation money in the form of Transportation Enhancement grants.

Transportation Enhancement Grants (MDOT – Transportation Enhancement Program)

Transportation Enhancement (TE) grants for nonmotorized transportation, among other things, are administered by the Michigan Department of Transportation (MDOT) and include:

- the provision of facilities for pedestrians and bicycles,
- the preservation of abandoned railway corridors (including the conversion and use of railway corridors for pedestrian and bicycle trails), and
- the provision of safety and educational activities for pedestrians and bicyclists.

About \$20-25 million dollars in TE funds are available annually, and grants require a minimum 20% match of the project cost with local funds. TE funds may be applied for at any time, however the applicant for the GrandWalk trail must be one of the following: the Kent County Road Commission, the City of Grand Rapids, the City of Walker, MDOT, ITP (The Rapid), a Native American Tribe, the Michigan Department of Natural Resources, or the metropolitan planning organization – the Grand Valley Metropolitan Council (GVMC). Other organizations, such as the Right Place Inc., are eligible to sponsor applications, only. A letter of support from the Grand Valley Metropolitan Council is also required for a GrandWalk trail application for TE funds. Additionally, because TE funds are federal money dispersed by the state and any federal transportation money must be included in the Transportation Improvement Program organized by the GVMC before it can be spent, it is important to make the GVMC aware of any TE awards for the trail feasibility or construction.

A benefit of using Transportation Enhancement grants for the feasibility study is that MDOT would have a vested interest in seeing the trail project through to completion. For this reason, the state may be more inclined to grant Transportation Enhancement funding again for the construction component of trail development.



Parcel Acquisition

After a feasibility study has identified the ideal route and parcels through which the trail would be placed, control of private land must be secured. This report identifies a route that touches nine privately owned parcels that would need to be acquired, either through easement or outright purchase, for trail development. The parcel acquisition recommended provides an estimation of the cost for purchasing land in the abandoned railroad corridor alongside Indian Mill Creek. Three funding sources are available for GrandWalk parcel acquisition: private donations or grants (such as one from the Frey Foundation), municipal funding from the City of Grand Rapids or the City of Walker, and Michigan Natural Resources Trust Fund money. Transportation Enhancement funds are unavailable for acquisition purposes.

Michigan Natural Resources Trust Fund

Funds from the Michigan Natural Resources Trust Fund (MNRTF) can be used to purchase land or land rights for public recreation or protection for its environmental importance or scenic value. (MDNR) Applications for land acquisition and recreational development are due April 1 and while only state and local governments may apply, organizations may nominate land for consideration (essentially nominate land for DNR ownership). There is no minimum/maximum limit on awards for land acquisition, but MNRTF grants for trail development (construction) are between \$15,000 and \$500,000. Local units of government must match at least 25% of the project costs. Awards are usually dispersed 12-18 months after an application is submitted. In 2006, the Michigan Natural Resources Trust Fund Board recommended 61 projects totaling over \$36 million (Wood).

Engineering Study

Trail engineering study consists primarily of: the identification of the exact location for the trail through surveying work, identifying the necessary permits, grading and earth movement implications, environmental impacts (and mitigation thereof), any parcel title issues, material pricing, and construction labor pricing. Basically the engineering component of trail development encompasses all the preparations prior to actual construction. Like land acquisition, engineering is not eligible for Transportation Enhancement funding, and private donations/grants or municipal funds will be required to finance this aspect of trail development.

Construction

The construction of the trail is just that, construction. Fortunately, several funding streams are available for the construction of the GrandWalk trail. Once again, Transportation Enhancement funds can be applied for from the Michigan Department of Transportation. In addition, the Michigan Natural Resources Trust Fund (MNRTF) can be applied for and used for development (construction) of recreational trails. Private funding, such as grants from The West Michigan Trails and Greenways Coalition are possible as well, especially since they have already expressed a desire to assist in the development of the GrandWalk trail. The West Michigan Trails and Greenways Coalition is dedicated to helping fund the development of linked non-motorized trails and have an expanding capital campaign for this purpose.

Maintenance

The final financial component to consider for trail development is ongoing maintenance of trail infrastructure and facilities. The Cities of Grand Rapids and Walker would jointly be responsible for undertaking GrandWalk trail maintenance over the years, including tasks such as repairs, trail resurfacing, replacement of amenities (like benches and lighting), as well as annual snow plowing,



mowing, and tree trimming. “Friends” groups that are already established, such as Friends of Walker Highland Trails, may facilitate minor maintenance, such as safety patrols and litter cleanup. Friends groups will likely be important allies in GrandWalk trail education and promotion after construction is completed. Police Departments from both the City of Walker and City of Grand Rapids would also have to negotiate patrols of the trail to ensure the safety of trail users.

Trail Marketing Strategy

When marketing a trail it is important to achieve attention of the community. Without proper marketing of any new construction, it would just be a mystery that people would not be familiar with. (Hartwright, 2007) The Michigan Department of Natural Resources is helping in the effort to market trails throughout the state. (Networking Michigan with Trails Brochure, 2007) There are many different ways to go about marketing a trail. Some of these include: brochure, signage boards, website, advertising, and appointment of a booking agent. (Hartwright, 2007)

The Michigan Department of Natural Resources or DNR is helping to designate a trail as a “Michigan Trailway” along with the Natural Resources Commission (NRC). Once a trail is declared a “Michigan Trailway” then it will receive marketing benefits such as having the state make public and endorse the trail way as a component of a system. Because there are some standards with being a part of this system the public will welcome the trail with assurance that it will meet up to those standards which will potentially bring more people in and work as a form of marketing. (Networking Michigan with Trailways Brochure, 2007)

When using a brochure to advertise a trail is it important that the information is well presented in an easy to read fashion. There should be a rundown of the environment of the trail along with the depiction of the trail and its features. A small map might be used in here but would be more accommodating on a new sheet of paper. Color is important when providing a brochure especially if pictures are going to be involved. Another good idea when providing brochures is to have them folded so they can fit into a normal business envelope. (Hartwright, 2007)

Signage boards are another way to market a trail. It should be straightforwardly identifiable and specify the direction to the trail. It is imperative that these signs be visible day and night. Websites can be effective if people know to look for them. If a brochure is made for your trail it would be a good idea to put the trails website in the brochure. There are also websites that are already made that allow you to market your trail on their site.

These approaches listed above are forms of overall advertising which is another successful way to market your trail. Magazines and newspapers are another way to market your trail but can be very costly and may not provide you with the return rate you were looking for. A good way to publicize your trail is by calling and inviting the local media and such to the opening of the trail. (Hartwright, 2007) Appointing a booking agent is something else to look into when marketing a trail. Your booking agent will have connections with different hiking/biking organizations and will help get the word out about this new trail. They will direct in the making of the brochure and help with the organization of an opening celebration of the trail. (Hartwright, 2007)



Description of Stakeholders

There are many stakeholders essential to the development of the GrandWalk trail, including but not limited to, the residents and landowners alongside the proposed trail, community organizations, advocacy groups, and the local municipalities themselves. The importance of including the immediate residents and landowners in the planning, design, and maintenance of the trail cannot be emphasized enough. Their support and cooperation is critical for furthering the trail proposal. In addition to the adjacent landowners, several area organizations have already been engaged with the Indian Mill Creek and trail development for years. Within the City of Walker, one group has already successfully obtained easements for trail extensions to Millennium Park, while others volunteer their time to educate students and business about the dangers of contaminated runoff draining into Indian Mill Creek. These groups present an abundance of local expertise that may help to assure that the proposed trail finds the most logical, convenient, and least contentious route. The stakeholders intimate knowledge and interest in the GrandWalk area make them some of the most logical and important participants for all future trail layouts, design considerations, and maintenance. The following table provides information on some of the easily identified stakeholders involved in the trail proposal process.



Insert Stakeholders chart on these two empty pages





VIII. Conclusion

The proposed GrandWalk trail alongside Indian Mill Creek offers an ideal amenity for residents and area users that could serve not only as a trail connector, but as a neighborhood connector, a recreational facility connector, a safe route to school, a means of transportation, and a recreational opportunity in and of itself. A trail of this nature within the study area is consistent with future land use plans and transportation/recreational trends in West Michigan, as evidenced by the success of two nearby regional trails: the Musketawa and White Pine. The legal issues examined, the construction and safety information considered, as well as the specific trail standards for development collected, all provide basic background information for trail proponents and stakeholders alike. This information provides the basis for future research directions and serves as a jumping off point for enhanced participation in trail planning.

The trail location proposed in this report, while not officially endorsed or engineered, does provide a reference for continued deliberation and planning. Careful reflection upon the information provided should be taken as trail development continues, especially information identifying parcels for acquisition and the anticipated cost of acquisition. It is hoped that this report will serve as a helpful resource for future development initiatives, for the proposed GrandWalk trail has the potential to be one of the most unique and successful features of the GrandWalk area.



IX. Appendices

Appendix A – Major GrandWalk Employers (Polk City Directories Reports)

COLUMBIA PIPE & SUPPLY

Phone Number: (616)364-3294

Address: 2400 TURNER AVE NW GRAND RAPIDS , MI 49544

SIC Code: SIC Description: **5051-07 PIPE-WHOLESALE**

Business Sales Volume: **\$2 MILLION - \$4,999,999**

Number of Employees: **10 TO 19**

Year First Listed: 2002

DELTA PLEX ENTERTAINMENT & EXPO

Phone Number: (616)364-9000

Address: 2500 TURNER AVE NW GRAND RAPIDS , MI 49544

SIC Code: SIC Description: **7941-04 STADIUMS ARENAS & ATHLETIC FIELDS**

Business Sales Volume: **\$1 MILLION - \$1,999,999**

Number of Employees **50 TO 99**

Year First Listed: 1997

CRYSTAL FLASH

Phone Number: (616)363-4851

Address: 1754 ALPINE AVE NW GRAND RAPIDS , MI 49504

SIC Code: SIC Description: **5172-06 OILS-FUEL (WHOLESALE)**

Business Sales Volume: **\$10 MILLION - \$49,999,999**

Number of Employees: **20 TO 49**

Year First Listed: 1930

FUEL SYSTEMS

Phone Number: (616)364-8555

Address: 1988 ALPINE AVE NW GRAND RAPIDS , MI 49504

SIC Code: SIC Description: **3443-05 TANKS-MANUFACTURERS**

Business Sales Volume: **\$1 MILLION - \$1,999,999**

Number of Employees: **50 TO 99**

Year First Listed: 1939

LEAR CORP

Phone Number: (616)785-2000

Address: 2150 ALPINE AVE NW GRAND RAPIDS , MI 49544

SIC Code: SIC Description: **3714-01 AUTOMOBILE PARTS & SUPPLIES-MFRS**

Business Sales Volume: **\$10 MILLION - \$49,999,999**

Number of Employees: **1000 TO 4999**

Year First Listed: 1952

**SPECTRUM HEALTH URGENT CARE**

Phone Number: (616)391-6220

Address: 2332 ALPINE AVE NW GRAND RAPIDS , MI 49544

SIC Code: SIC Description: **8011-05 PHYSICIANS & SURGEONS-EMERGENCY SERVICE**Business Sales Volume: **\$1 MILLION - \$1,999,999**Number of Employees: **20 TO 49**

Year First Listed: 2001

AMIRAL PETROLEUM

Phone Number: (616)447-1789

Address: 2366 ALPINE AVE NW GRAND RAPIDS , MI 49544

SIC Code: SIC Description: **5172-08 GAS-LIQUEFIED PETRO-BTTLD/BULK (WHOL)**Business Sales Volume: **\$2 MILLION - \$4,999,999**Number of Employees: **5 TO 9**

Year First Listed: 2002

MEIJER

Phone Number: (616)363-9849

Address: 2425 ALPINE AVE NW GRAND RAPIDS , MI 49544

SIC Code: SIC Description: **5411-05 GROCERS-RETAIL**Business Sales Volume: **\$10 MILLION - \$49,999,999**Number of Employees: **500 TO 999**

Year First Listed: 1934

HOME DEPOT

Phone Number: (616)447-0100

Address: 2727 ALPINE AVE NW GRAND RAPIDS , MI 49544

SIC Code: SIC Description: **5211-38 HOME CENTERS**Business Sales Volume: **\$5 MILLION - \$9,999,999**Number of Employees: **100 TO 249**

Year First Listed: 1997

H & H METAL SOURCE

Phone Number: (616)364-0113

Address: 1909 TURNER AVE NW GRAND RAPIDS , MI 49504

SIC Code: SIC Description: **5051-06 STEEL-DISTRIBUTORS & WAREHOUSES (WHOL)**Business Sales Volume: **\$2 MILLION - \$4,999,999**Number of Employees: **20 TO 49**

Year First Listed: 1998

**VISSER BROTHERS INC**

Phone Number: (616)363-3825

Address: 1946 TURNER AVE NW GRAND RAPIDS , MI 49504

SIC Code: SIC Description: **1521-03 GENERAL CONTRACTORS**Business Sales Volume: **\$2 MILLION - \$4,999,999**Number of Employees: **50 TO 99**

Year First Listed: 1996

P L SLATON INC

Phone Number: (616)363-8260

Address: 2474 TURNER AVE NW GRAND RAPIDS , MI 49544

SIC Code: SIC Description: **9999-77 NONCLASSIFIED ESTABLISHMENTS**Number of Employees: **50 TO 99**

Year First Listed: 2005

GRAND RAPIDS FOAM RUBBER CO

Phone Number: (616)361-2722

Address: 1700 ALPINE AVE NW GRAND RAPIDS , MI 49504

SIC Code: SIC Description: **5199-02 RUBBER-FOAM & SPONGE (WHOLESALE)**Business Sales Volume: **\$5 MILLION - \$9,999,999**Number of Employees: **50 TO 99**

Year First Listed: 1953

SUPERIOR JANITORIAL SVC

Phone Number: (616)456-1537

Address: 1020 PANNELL AVE NW GRAND RAPIDS , MI 49504

SIC Code: SIC Description: **7349-02 JANITOR SERVICE**Business Sales Volume: **\$100,000 - \$249,999**Number of Employees: **50 TO 99**

Year First Listed: 1959

SPECIALIZED PHARMACY SVC

Phone Number: (616)365-9702

Address: 400 ANN ST NW GRAND RAPIDS , MI 49504

SIC Code: SIC Description: 5912-05 PHARMACIES

Business Sales Volume: \$500,000 - \$999,999

Number of Employees: **50 TO 99**

Year First Listed: 1996

**EVANS TEMPCON INC**

Phone Number: (616)361-2681

Address: 701 ANN ST NW GRAND RAPIDS , MI 49504

SIC Code: SIC Description: **3585-98 AIR CONDITIONING/HTG/REFRIG EQUIP (MFRS)**Business Sales Volume: **\$2 MILLION - \$4,999,999**Number of Employees: **100 TO 249**

Year First Listed: 1917

HAVILAND ENTERPRISES INC

Phone Number: (616)361-6691

Address: 421 ANN ST NW GRAND RAPIDS , MI 49504

SIC Code: SIC Description: **5169-52 CHEMICALS-INDUSTRIAL (WHOLESALE)**Business Sales Volume: **\$2 MILLION - \$4,999,999**Number of Employees: **100 TO 249**

Year First Listed: 1934

RADISSON HOTEL GRAND RAPIDS

Phone Number: (616)363-9001

Address: 270 ANN ST NW GRAND RAPIDS , MI 49504

SIC Code: SIC Description: **7011-01 HOTELS & MOTELS**Business Sales Volume: **\$500,000 - \$999,999**Number of Employees: **100 TO 249**

Year First Listed: 1968

RELIABLE EQUIPMENT CORP

Phone Number: (616)363-4823

Address: 633 RICHMOND ST NW GRAND RAPIDS , MI 49504

SIC Code: SIC Description: **5051-22 METAL FINISHERS-EQUIPMENT & SUPLS (WHOL)**Business Sales Volume: **\$1 MILLION - \$1,999,999**Number of Employees: **10 TO 19**

Year First Listed: 1984

PITSCH CO

Phone Number: (616)363-4895

Address: 675 RICHMOND ST NW GRAND RAPIDS , MI 49504

SIC Code: SIC Description: **1795-02 DEMOLITION CONTRACTORS**Business Sales Volume: **\$1 MILLION - \$1,999,999**Number of Employees: **50 TO 99**

Year First Listed: 1984

**WILLIAMS DISTRIBUTING INC**

Phone Number: (616)456-1613

Address: 658 RICHMOND ST NW GRAND RAPIDS , MI 49504

SIC Code: SIC Description: 1711-17 AIR CONDITIONING CONTRACTORS & SYSTEMS

Business Sales Volume: \$1 MILLION - \$1,999,999

Number of Employees: 100 TO 249

Year First Listed: 1952

WILLIAMS KITCHEN & BATH

Phone Number: (616)771-0505

Address: 658 RICHMOND ST NW GRAND RAPIDS , MI 49504

SIC Code: SIC Description: 5064-04 APPLIANCES-HOUSEHOLD-MAJOR-WHOLESALE

Business Sales Volume: \$10 MILLION - \$49,999,999

Number of Employees: 100 TO 249

Year First Listed: 1970

STEHOUWER'S FROZEN FOODS INC

Phone Number: (616)453-2471

Address: 2055 BRISTOL AVE NW GRAND RAPIDS , MI 49504

SIC Code: SIC Description: 5142-01 FROZEN FOODS-WHOLESALE

Business Sales Volume: \$2 MILLION - \$4,999,999

Number of Employees: 20 TO 49

Year First Listed: 1960

DIE LINK INTL

Phone Number: (616)453-4431

Address: 2066 BRISTOL AVE NW GRAND RAPIDS , MI 49504

SIC Code: SIC Description: 3544-02 DIE MAKERS (MFRS)

Business Sales Volume: \$2 MILLION - \$4,999,999

Number of Employees: 100 TO 249

Year First Listed: 1946

FROST INC

Phone Number: (616)453-7781

Address: 2020 BRISTOL AVE NW GRAND RAPIDS , MI 49504

SIC Code: SIC Description: 3535-01 CONVEYORS & CONVEYING EQUIPMENT-MFRS

Business Sales Volume: \$2 MILLION - \$4,999,999

Number of Employees: 50 TO 99

Year First Listed: 1913



BETZ INDUSTRIES

Phone Number: (616)453-4429

Address: 2121 BRISTOL AVE NW GRAND RAPIDS , MI 49504

SIC Code: SIC Description: 3325-02 FOUNDRIES-STEEL (MFRS)

Business Sales Volume:

\$2 MILLION - \$4,999,999

Number of Employees: 100 TO 249

Year First Listed: 1933

ELITE SECURITY SVC INC

Phone Number: (616)791-7699

Address: 1545 RICHMOND ST NW GRAND RAPIDS , MI 49504

SIC Code: SIC Description: 7381-02 SECURITY GUARD & PATROL SERVICE

Business Sales Volume: \$500,000 - \$999,999

Number of Employees: 100 TO 249

Year First Listed: 1997

WEST CATHOLIC HIGH SCHOOL

Phone Number: (616)453-4467

Address: 1801 BRISTOL AVE NW GRAND RAPIDS , MI 49504

SIC Code: SIC Description: 8211-03 SCHOOLS

Number of Employees: 50 TO 99

Year First Listed: 1984



Appendix B – City of Grand Rapids Renaissance Zone Map





Appendix C – City of Walker Master Plan Bus Route Framework





Appendix D – City of Walker Master Plan Trail Layout





Appendix E – City of Walker Parks Map





Appendix F – City of Walker Parks and Recreation Map





Appendix G – City of Walker Proposed Capital Improvement Schedule

Park and Recreation Plan 2004

PROPOSED CAPITAL IMPROVEMENT SCHEDULE

<u>Year</u>	<u>Project</u>	<u>City*</u>	<u>Other Funds**</u>	<u>Total Project Costs</u>
2004	<u>South Standale Trail</u> Construct 3/4mi Trail	\$50,000	\$250,000	\$300,000
	<u>Orchard Ridge Park Development</u> Develop neighborhood parkland with playground, picnic shelter, benches, walks, landscaping and open play area.	\$170,000		\$170,000
2005	<u>Spring Hill Park Development</u> Walks, historic garden, gazebo, garden terrace, over-look deck, play equipment, parking lot, site lighting, seating and landscaping.	\$386,400	\$386,400	\$772,800
	<u>Acquisition of Community Park Land for Expansion</u> 4.12 acres adjacent to park	\$37,500	\$112,500	\$150,000
	<u>Walker Highland Trail (South)</u> Construct 3.1 miles of trail from South Standale Trail south to Kent Trail System	\$279,000	\$651,000	\$930,000
	<u>Acquisition of Richmond Area Land for a Neighborhood Park</u> Minimum 5 acres	\$37,000	\$112,500	\$150,000
2006	<u>Harmon Park – Phase II</u> Picnic shelter, expanded play facilities, restroom, two basketball courts and expanded parking.	\$162,500	\$162,500	\$325,000
	<u>Lincoln Lawns Park Improvements</u> New basketball court and sports field improvements	\$65,000		\$65,000
	<u>Grand Walk Linear Park - Development</u> Develop 5.6 mile trail and recreation areas along corridor	\$420,000	\$980,000	\$1,400,000

Proposed Capital Improvement Schedule continues on the next page

City of Walker

Park and Recreation Plan 2004

VIII - 9



Appendix H – 2002 Recreation Needs Assessment for Kent County Parks

2002 Recreation Needs Assessment for Kent County Parks Executive Summary

By Dr. Charles M. Nelson, Associate Professor
Rebecca Jennings and Jennifer Henschell, Graduate Students
Michigan State University Department of Park, Recreation and Tourism Resources

January 28, 2003

INTRODUCTION

As part of the process to update the Kent County Parks Master Plan, personnel from the Department of Park, Recreation and Tourism Resources of Michigan State University conducted a recreation needs assessment. A county-wide mail survey was used to elicit information from residents. This survey was similar to the one used in the most recent (1997) needs assessment. The residents were systematically selected with a random start from voter registration records.

RESULTS

Of the 1,000 persons mailed the questionnaire, the U.S. Postal Service returned 118 mailings undelivered because the addressee no longer lived at the address and the forwarding order, if any, had expired. Of the 882 valid addresses, 437 (50%) responded.

Park Use

Of the respondents, 52% reported one or more household members had visited one or more of the 36 Kent County Parks during the past year. A map and name list of the parks was provided so parks in other jurisdictions would not be confused with Kent County Parks. The remaining 48% of the households had not visited a Kent County Park in the past year. The most visited parks managed by the Kent County Parks Department were Kent Trails, Fallasburg, Townsend, Wabasis, Johnson, Palmer, White Pine, Walker, and Long Lake.

Contrast of Park Visitors to Non-Visitors

Park visitors were likely to participate in a greater variety of recreational activities than non-park visitors. In Kent County Parks, they were most likely to walk/hike, observe nature, picnic, use a playground, bicycle or take a scenic drive. Kent County Park activities that were most important to park visitor households were walking/hiking, bicycling, picnicking, observing nature and playground use. Park visitors were also more likely to have children under 18 in their family and to be younger. Proportions of race and gender for park visitor respondents were slightly more likely to be white and male than for those who did not visit the Kent County Parks in the past year.

Land Acquisition

Kent County Park visitors and non-visitors were both supportive of acquiring additional land for Kent County Parks. The strongest support was for acquiring land focusing on nature conservation by park visitors and non-visitors. Park visitors were also highly supportive and non-visitors moderately supportive of acquisition for foot/bicycle trails. Support was moderate from both



groups for acquisition of more land to expand the range of recreation opportunities. Both park visitors and non-visitors were opposed to a land acquisition moratorium.

Expectations and Park Performance

When park visitors were asked to rate the performance of the Kent County Parks, their most favorable ratings were for the parks' overall beauty, wildlife/nature, level of crowding and price. They were least favorable about the programs, safety and security and facilities. However, even those aspects had an average rating between "OK" and "Good". When Kent County Park visitors were asked what park characteristics were important to them in visiting any park or recreation site, cleanliness and safety and security were rated most important. Comparison of these importance ratings with the performance of the Kent County Parks suggests that the expectations of park visitors in regards to cleanliness and safety and security are not being fully met.

Those who hadn't visited a Kent County Park in the past year also rated cleanliness and safety and security as the most important characteristics when visiting any park or recreation site. Hence, improvements in cleanliness and safety and security would improve the situation for current visitors and make the parks more attractive to potential visitors.

Operations Funding

Both park visitors and non-visitors supported maintaining the current sources of funding for park operations. These include county general tax dollars and user fees for facilities/services one would expect to pay for elsewhere such as golf, camping and shelter/facility rental. A majority of both visitors and non-visitors were opposed to or expressed no opinion about a millage of .25 mills for park operations or an entry fee for the parks.

Park Facilities

When asked what existing park facilities should be expanded, park visitors and non-visitors were most likely to recommend paved foot/bicycle trails, nature study areas and swimming beaches. Park visitors also were likely to mention unpaved foot/bicycle trails, where non-visitors were also likely to mention picnic areas and campgrounds. There was little support for expansion of baseball/softball diamonds, soccer fields, tennis courts and disc golf courses. When selecting from a list of proposed new facilities suggested by the Kent County Parks staff, visitors and non-visitors were most supportive of a developed nature center, outdoor ice rink and a dog park.

Park Programs

When asked what current programs to expand, park visitors and non-visitors were most supportive of more music concerts and family fun festivals. The least support was for providing more golf tournaments and runs or races. From a short list of proposed new programs, both groups were most supportive of nature programs and watercraft safety training.

Changes Since 1997 Survey

Kent County residents, both park visitors and non-visitors, increased their support for land acquisition for conservation and non-motorized trails since the 1997 survey. Participation in outdoor recreation also appears to have increased as higher percentages of respondents participated in 21 of 30 selected outdoor recreation activities. Cleanliness and safety and security remain the two most important factors in choosing recreation sites for park visitors and non-visitors.



CONCLUSION

The survey results show the Kent County Parks are enjoyed by large proportion of the households in Kent County. They also suggest that improvements need to be made in maintenance, safety and security and in the expansion and creation of selected facilities and programs. Finally, they demonstrate that there is strong support among residents for continued growth in the system to meet the needs of future generations for outdoor recreation and green space.



Appendix I – Michigan Department of Transportation – Michigan Transportation Fund

Michigan Transportation Fund

Public Act 51 of 1951 creates the Michigan Transportation Fund, into which specific transportation taxes are deposited, and prescribes how these revenues are to be distributed and the purposes for which they can be spent. Act 51 establishes jurisdictional road networks, sets priorities for the use of transportation revenues, and allows bonded debt for transportation improvements and guarantees repayment of debt.

Public Act 51 was amended initially in 1973 to include Section 10k that states, “transportation purposes as provided in this act include provisions for facilities and services for non-motorized transportation including bicycling.”

Section 10k of Act 51 requires that a minimum of one percent annually (based on a 10-year running average) of MTF funds distributed to the state, counties, cities and villages must be used for non- motorized transportation facilities. Such facilities can be in conjunction with or separate from a roadway. (MDOT SLRP, 2006)



Appendix J – City of Grand Rapids Trespassing on Railroad Property Ordinance

City of Grand Rapids Trespassing on Railroad property Ordinance No. 69-77, 9-23-69

Chapter 162 TRESPASSING ON RAILROAD PROPERTY*

*Cross references: Railroad trains, Ch. 182.

Sec. 9.390. Trespassing.

No person shall walk, drive, ride, or park any bicycle, vehicle or other device including any vehicle or device moved by human power upon the tracks of any railroad company operating its lines within the City, or go upon or cross such tracks or right-of-way at any place other than a public or private crossing without the express or implied consent of the railroad company.

Cross references: Trespassing generally, § 9.133(1).

State law references: Trespassing, MCL 750.546 et seq.; MSA 28.814 et seq.



Appendix K – City of Grand Rapids Drain Map





Appendix L – Selected Surface Building Material Unit Price Per Square Foot

Surface Material	Unit Price per Square Foot	Notes
Hot Mix Asphalt	\$3.00	3.5" Asphalt, 8" Gravel borrow
Porous Asphalt	\$3.60	3.5" Asphalt, 2" Choker Stone, 8" Stone recharge bed, 2 layers of geotextile fabric for separation
Stone Dust	\$2.00	4" Stone Dust, Geotextile fabric for separation, 6" Gravel borrow
Stabilized Granular Surface	\$4.50	4" Stabilized Stone Dust, Geotextile fabric for separation, 6" Gravel borrow

Source: Bruce Freeman Rail Trail Environmental and Engineering Assessment, Sudbury, Massachusetts, 2003

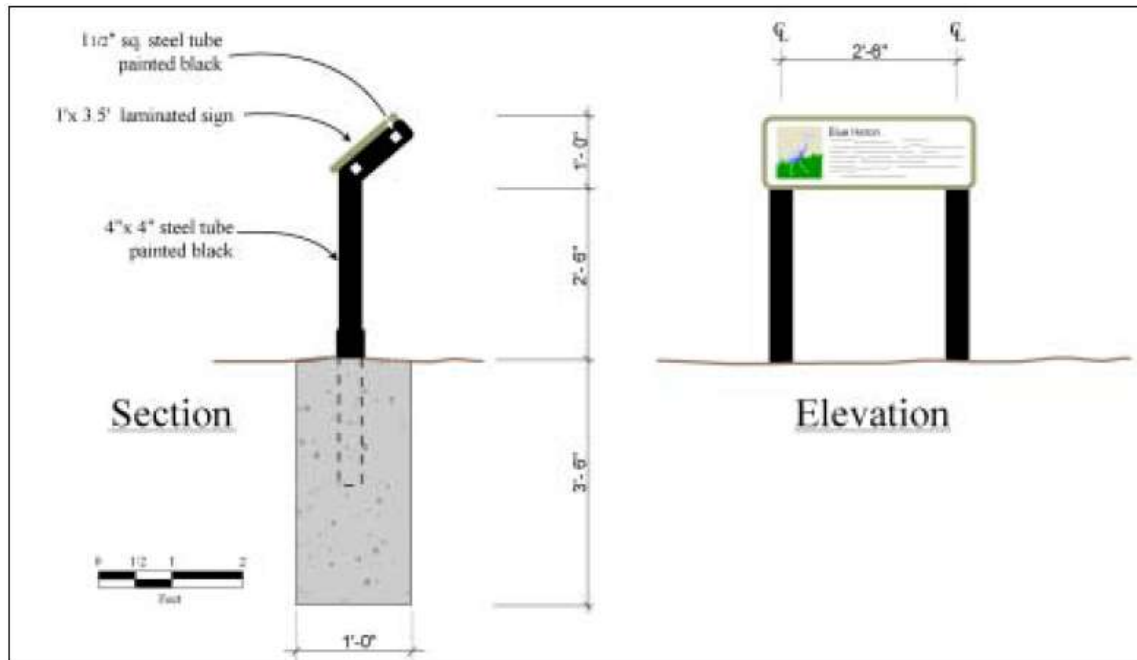


Appendix M – Contact Information for Case Study Trails

	Trail	Institution responsible	Address	Phone number
1	Pinellas County Trail	Pinellas County Planning Department	600 Cleveland Street, Suite 750, Clearwater, FL 33755	727-464-8200
2	Omaha Trails	City of Omaha Parks, Recreation, and Public Property	1819 Farnam St., STE 701, Omaha, NE 68183	402-444-5901
3	Minuteman Bikeway	Town of Bedford Planning Department	10 Mudge Way, Bedford, MA 01730	781-275-1548
4	Minuteman Bikeway	Town of Lexington Planning Department	1625 Massachusetts Avenue, Lexington, MA 02420	781-862-0500 Ext. 245
5	Minuteman Bikeway	Town of Arlington Planning Department	Town Hall Annex, 1st floor, 730 Mass. Ave, Arlington, MA 02476	781-316-3090
6	Minuteman Bikeway	City of Cambridge Planning Department	795 Massachusetts Ave., Cambridge, MA 02139	617-349-4000
7	Nashua River Rail Trail	Massachusetts Department of Conservation and Recreation	251 Causeway Street, Suite 600, Boston, MA 02114-2104	617-626-1250
8	Pere Marquette Rail Trail	Midland County Parks And Recreation	220 W Ellsworth St, Midland, MI 48640-5194	989-832-6874



Appendix N – Interpretative Signs Design Guidelines



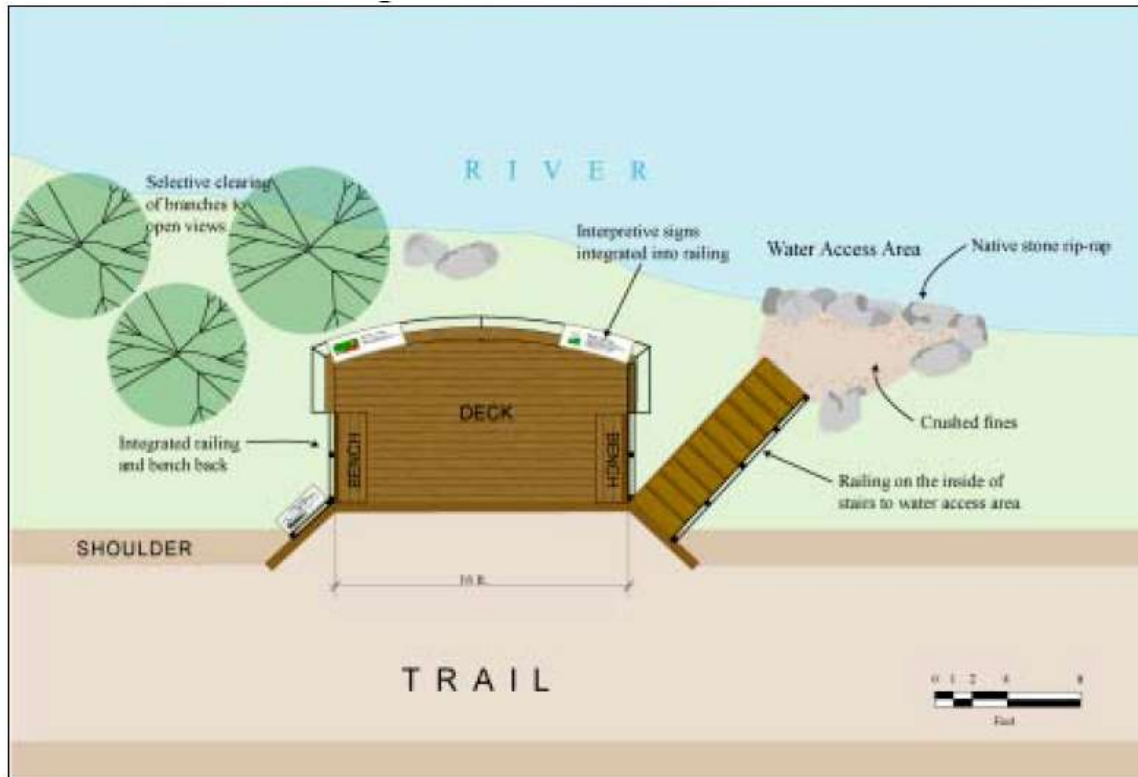
(Source: Clinton River Trail Master Plan 2003)

A careful and thoughtful use of interpretative signs can greatly enhance user's experience of the trail. Several important design considerations should be respected when interpretative signs are used (Clinton River Trail Master Plan 2003):

- Signage design should be consistent along the length of the trail to establish a sense of continuity and character. The same sign design, color scheme and logo should be used to reinforce the image of a common trail identity.
- Signs should be made of fade proof and weather proof materials and inks.
- Signs should be made durable and require minimal maintenance.
- Signs should be placed to prevent obstruction or collision along the trail. It is recommended to place them in areas at least 4' off the side off of the path so groups of pedestrians, wheelchairs users or people on bicycles can be completely out of the travel lane while reading signs.
- Self-guided interpretive systems with simple numbered posts may be used along the trail. River overlooks may be used for larger interpretive signs.



Appendix O – Overlook Deck Design Guidelines



(Source: Clinton River Trail Master Plan 2003)



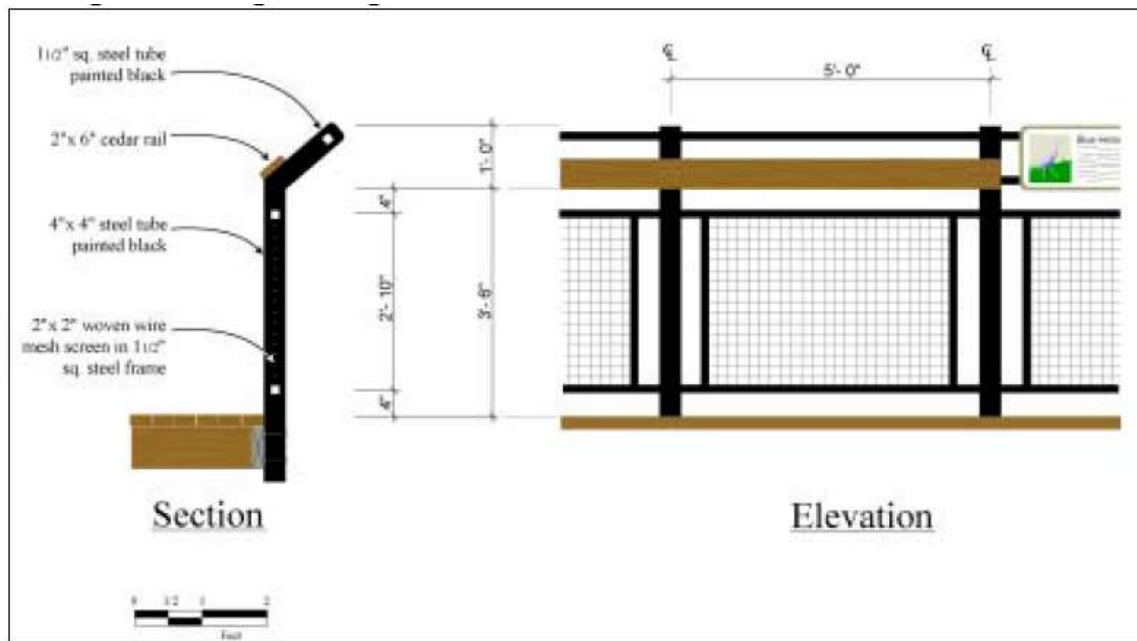
View of the Indian Mill Creek

Design guidelines to minimize environmental impact along the creek:

- Elevated deck features should include interpretative signage into the railings, benches and trail location signage.
- Steps leading down to water access areas should be used to minimize erosion of riverbank slope.
- Water access area should be minimally developed to reduce damage to the water habitat.



Appendix P – Bridge Railing Design Guidelines



(Source: Clinton River Trail Master Plan 2003)



Existing Pedestrian Bridge Over Indian Mill Creek

Design guidelines:

- The retracted angle of the railing top allows bikes to be ridden close to the railing of the bridge without the handle-bars colliding with the top safety bars of the railing.
- The retracted angle of the railing allows the top portion of the railing to serve as a base for interpretive signage.
- The black steel tubing and woven wire mesh is designed to be simple and unobtrusive while providing protection to bicyclists, pedestrians and small children.



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