

Biking in Holyoke: Needs Assessment



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DRAFT

Executive Summary

Thanks to the leadership shown by Holyoke's residents, business owners, and public officials, the city is aggressively positioning itself for growth. The community vision for Holyoke places it as a hub in the knowledge economy, including the Massachusetts Green High Performance Computing Center, the recently-hired Creative Economy Coordinator, and the redevelopment of the Knowledge Corridor Rail Line. In addition to travel by rail, however, Holyoke must include bicycling in its vision for the future.

Today, Holyoke has three streets with bike lanes, a small section of multi-use path by the canals, and three bike shops. There is a small but growing bicycle community and a developing constituency to encourage the City to develop infrastructure and programs that support bicycling. At the state level, GreenDOT (the Massachusetts Department of Transportation's Sustainability Plan), the Global Warming Solutions Act, and the Healthy Transportation Compact are all policy documents which support expanded biking, walking and transit use. The Pioneer Valley Planning Commission has a history of support for expanded transportation options, including biking. In short, there is a "tailwind" for communities looking to encourage biking. The City would be well-served to leverage this nascent bicycling community and state and regional policy support to plan for expanded facilities and programs.

In order to better plan for next steps in the work of encouraging bicycling, the City of Holyoke, in partnership with Mass in Motion and MassBike, conducted public outreach and research on bicycle planning in Holyoke done to date. This report outlines the findings and recommended next steps for the City of Holyoke to take in order to support more, and safer, bicycling.

Main Recommendations

The three main recommendations for the City of Holyoke are as follows:

1. Foster the development of a more robust bicycle constituency in Holyoke through the promotion of bicycle-related events and programs, with the ultimate goal of establishing a Bicycle Advisory Committee. Some next steps for this recommendation are:
 - Pre-existing events should be examined to see if a bicycle-related component could be included, such as the farmer's market, the Saint Patrick's Day Parade, and other community events.
 - Put out a call to local residents to determine interest in participating in a Bicycle Advisory Committee.
 - Advertise bicycle resources (safety information, bike shop locations, etc.) on the City's website.
2. Develop a plan to optimize underutilized road space. The long-term goal should be a bicycle network plan or bicycle master plan. Some next steps for this recommendation are:
 - Key bicycle routes connecting major points of interest should be identified using public input.

- A bicycle route map should be developed and posted online. Printed maps should be distributed for free at shops and events, funding permitting.
 - As road projects are planned, part of the project should be establishing on-street parking utilization rates and needs.
3. In partnership with the Pioneer Valley Planning Commission and the Department of Conservation and Recreation, study the feasibility of connecting Holyoke to other regional recreational trails. Some next steps for this recommendation are:
- The Department of Conservation and Recreation and the Pioneer Valley Planning Commission should be contacted to assist with determining viable route alternatives for connections to other trails.
 - Establish dialogue with the Town of Easthampton and the Friends of the Manhan Rail Trail to help determine the process for connecting Holyoke into the trail system.

Introduction

Holyoke has been working for the past several years to craft a new vision for itself. Holyoke has many assets in its favor when planning for the future:

- It is located not only on I-90 and I-91, but also along the Knowledge Corridor, a north-south rail connection.
- It is supplied by a hydro-electric dam, providing abundant clean energy to the City.
- The grid system in downtown Holyoke is relatively unique among New England communities, and a major benefit for community development.
- Holyoke has a compact downtown area, a powerful benefit to bicycle transportation.
- Within this compact downtown are a variety of destinations, including the City Hall, a soon-to-be newly renovated library, businesses, housing, and other attractions.
- The location of the city along the Connecticut River and the canals in the “Flats” make for excellent recreational areas.

Thanks to these assets and others, the city plans to expand the role of the high-tech industry and the arts. Furthermore, these assets – especially the style of urban development – are perfectly suited to support expanded bicycle facilities. Luckily, the city has already considered this in planning for the future.

The Holyoke Redevelopment Authority created the urban renewal plan “Connect. Construct. Create.” That plan identified bicycling in a general way as one of the components to revitalizing the downtown area. (HRA, 7-1) That report serves as the beginning point for crafting a vision for what that improved bicycling environment looks like. However, much more detail is needed to lay out the vision of bicycling in Holyoke. In nationally-recognized cities for bicycling, the development of facilities, programs, and, ultimately, ridership only followed deliberate planning which truly integrated bicycling into the fabric of the community.

Put simply, bicycling has a fundamental connection with quality of life. Any current measure of livability includes having a variety of transportation options and recreational facilities, bicycling being a necessary feature of both. New York, Washington DC, Seattle, Chicago, Los Angeles, and Boston are all making headlines for their work to stripe bike lanes, add miles of off-road paths, and implement bicycle-related programs. Most major cities around the country and, indeed, the world are building out their bicycle networks precisely because they need to be globally competitive.

This applies no less to mid-sized communities like Holyoke. In a time when people are increasingly mobile (especially in the knowledge economy), quality of life is key. While biking by itself is not sufficient to create a high quality of life, it is a necessary piece. In conjunction with its other assets, better bicycling in Holyoke would enhance it as a destination for college students, businesspersons, and young families.

Below is a closer examination of current opportunities and obstacles to increasing bicycling in Holyoke. The first section reviews the benefits of bicycling, followed by an overview of the public outreach activities undertaken for this project. The next section includes a discussion of the current conditions in the City of Holyoke, including an overview of opportunities to improve the city. This is followed by a discussion of potential funding sources for bicycle improvements, and concludes with a list of recommendations for the city.

1. Benefits of Bicycling

The most essential question to this report is, why should the city be encouraging bicycling at all? There are many potential reasons Holyoke would want to encourage non-automotive travel, breaking down into the categories described below.

Economic Development

With the current focus on economic development in Holyoke, bicycling is a natural complement to the other activities being undertaken to attract investment in the city. There are several ways in which investments in bicycle infrastructure can result in a healthier local economy.

- **More customers**
 - In New York City, after the construction of a protected bike lane on 9th Avenue, local businesses saw a 49 percent increase in retail sales. In comparison, local businesses throughout Manhattan only saw a 3 percent increase in retail sales. (New York City Department of Transportation, 3)

Image 1: 9th Avenue Bike Lane, New York City



- In Memphis, TN, bicycle lanes are a large reason why the city's Broad Avenue Arts District Initiative has been a success. The first step in the revitalization process was a focus on attracting arts-related businesses, while the second step included buffered bicycle lanes in each direction. According to Pat Brown, co-owner of T Clifton Gallery on Broad Avenue, "The lanes slowed down traffic and people started noticing the businesses more. Our business revenues have grown on average 30 percent per year – yes, an art-related business in a tough economy." Since the beginning of the project in 2010, the district has seen 16 new businesses, 29 property renovations (17 at blighted locations), and 40,000 visitors to the annual Arts Walk. (League of American Bicyclists, 12)

Image 2: Broad Avenue Bike Lane, Memphis, TN



- **More spending per customer**

- In Portland, Oregon, while bicyclists were observed to spend less per trip to local businesses than their driving counterparts, they were observed to take more frequent trips and spend 24% more per month. (Clifton et al., 29)
- **Increased consumer spending power**
 - The Report by CEO's for Cities, *The Green Dividend*, details how various cities with compact development and robust transportation options such as Portland, Oregon, Chicago and New York City generate \$2.6 billion, \$2.3 billion, and \$19 billion (respectively) in savings that can be spent locally. (CEO's for Cities, 1)
 - Harrisonburg, VA (population 48,814) calculated that, thanks to bicycling, there were annual household savings of \$1.7 million: \$900,000 of which can be attributed to household transportation savings, and the other \$800,000 in savings are split evenly between reduced vehicle crash costs and reduced road maintenance, health care, congestion, and emissions costs. (Olson, 2012)
- **Home Buyers' Preference**
 - A 2002 survey of recent home buyers by the National Association of Realtors and the National Association of Home Builders showed that trails ranked as the second most important community amenity out of a list of 18. (Economist Intelligence Unit, 8)
- **Increased Home Values**
 - Homes within a half-mile of Indiana's Monon Trail sell for an average of 11 percent more than identical homes further away. (Lindsey et al., 2004).

Image 3: Monon Trail, Central Indiana



- A study of the Little Miami Scenic Trail in southwestern Ohio found that every foot closer a home is located to the trail adds on average \$7.05 to the sale price. (Karadeniz, 2008) Put differently, homeowners are willing to pay a \$9,000 premium to live within 1,000 feet of the Little Miami Scenic Trail. (Hofe and Parent, 2011)

Image 4: Little Miami Scenic Trail, Ohio



- In Minneapolis-St. Paul, for every 400 meters closer a median-priced home is to an off-street bicycle facility, its value increases by \$510. (Krzek, 2006)
- **Global competitiveness**
 - The report *Liveonomics: Urban Liveability and Economic Growth* details how multinational firms value livability, a fundamental component of which is transportation options. In a survey of business professionals from around the world, transportation was the highest-ranked concern. “Time is becoming ever more valuable,” says Carol Coletta, President of CEO’s for Cities. “Technology is becoming richer and more diverting and as a result people are living 24-7, so if you don’t provide good public transport or alternatives to the automobile that’s a real problem.” (EIU, 8)
- **More jobs from bicycle facility construction**
 - A report from the UMass Political Economy Research Institute found that bicycle-specific construction had a 68% increase in the number of jobs created per million dollars of spending versus road projects. (Garrett-Peltier, 2011)

Health and Wellness

The obesity epidemic in Massachusetts and across the country is a major threat to the wellbeing of the current generation, and generations to come. While there are many causes to the obesity epidemic, an increasingly sedentary lifestyle is one of them. The consequences of this epidemic, and opportunities for obesity and overweight reduction through physical activity, are found below.

- **Physical activity contributes to health**
 - According to the Centers for Disease Control, getting the recommended 30 minutes of physical activity per day (150 minutes per week) reduces the likelihood of cardiovascular disease, in addition to reducing risk of type 2 diabetes.
(<http://www.cdc.gov/physicalactivity/everyone/health/index.html>)
- **Diminished productivity**

- A 2010 study in the American Journal of Preventive Medicine suggested that up to \$147 billion in productivity is lost every year due to obesity- and overweight-related illness, or around \$740 per worker. (Jia et al., 2010)
- **Bike commuting reduces diabetes**
 - A 2010 study by Pucher et al found a statistically significant negative correlation between the rates of biking and walking to work and the incidence of diabetes, an obesity-related disease. (Pucher et al., 2010)
- **Bike use extends lives**
 - The benefits of increased physical activity from shifting from driving to bicycling (3 to 14 months gained) outweigh the effects of increased inhaled air pollution (0.8 to 40 days lost) and increased traffic accidents (5 to 9 days lost). (de Hartog, J., et al., 2010)
 - A study of the bike share program “Bicing” in Barcelona suggested a 77:1 ratio of benefits-to-risks for users of the system, despite the increased exposure to car exhaust and potential risks associated with car crashes. (Pucher et al., 2010)
- **Biking reduces health care spending**
 - A study from Portland, Oregon showed that the investments the city has made in bicycling, there will be an estimated \$344 – 594 million in health care savings, a cost-to-benefit ratio of 1:4. (Gotschi, 2011)
- **Holyoke needs better health**
 - 50% of the Holyoke Community Health Center’s adult patients are overweight or obese. (2009 Chart Review, Holyoke Health Center) Holyoke’s diabetes rate is 1.5 times the state average and two times the state rate for Latinos. (MA Department of Public Health Data from Holyoke Healthy Weight Collaborative, January 2012) 2013 BMI testing at Holyoke Public Schools revealed that 32 % of 1st grade students, 40.5 % 4th grade students, 37.7% 7th grade students and 37.6% 10th grade students were at risk or overweight. (Holyoke Public Schools, 2013)

Equity

There is a strong component of equity embedded in decisions about bikeability. While often times people think of higher-income “MAMILs” (Middle Aged Men in Lycra) as cyclists, the reality is that improvements in bikeability often benefit the working poor who have no other transportation options. Below are some figures on equity.

- **Socio-economic equity**
 - The report out of the University Transportation Research Center showed that in 2009, the bottom fourth of Americans in terms of income traveled a disproportionate number of the bike trips (33%). (Pucher, 2011)
- **Racial/Ethnic**
 - Hampden County shows a higher incidence of obesity for all racial/ethnic categories than the statewide average, with the highest disparity being among the Black, Non-Hispanic population (37.9% versus 29% obese statewide) and the Hispanic population

(39.3% versus 27.1% statewide). (Massachusetts Department of Public Health, MassCHIP Community Profile)

- **Bicycle safety**
 - According to the League of American Bicyclists, the fatality rate nationally is 23% higher for Hispanic bicyclists and 30% higher for African-American bicyclists than white bicyclists. (League of American Bicyclists, 2)
- **The bicycle community is increasingly diverse**
 - Hispanics and African-Americans have reported the highest rates of increase in bicycle trips, 100% and 50% increase (respectively). (LAB, 2-3)

Road Safety

The reality is that even though Holyoke has a few bike facilities, there are still many residents who ride for transportation or recreation. According to the Census Bureau, about 0.5% of work trips are taken via bicycle in Holyoke. Unfortunately, the limitation to this data source is that this only captures those who used bicycles as the primary mode of transportation for their work trip, and ignores commuters who occasionally bike or bike a small portion of the trip (e.g. bike to a bus stop and then take a bus the rest of the journey).

The Massachusetts Household Travel Survey, which is a more comprehensive survey of travel behavior, found that 7.5% of residents in Hampden and Hampshire Counties used bicycles as a mode of transportation at least one day in the week prior to the survey. Furthermore, 18.6% of the same residents indicated bicycling for recreation at least one day in the week prior to the survey. With nearly 1 in 5 residents bicycling, improving safety should be a priority when planning upcoming projects. Indeed, there is evidence that bicyclists would particularly benefit from better designs:

- **Bikers are at risk**
 - Biking and walking make up a disproportionate number of fatalities relative to the overall share of trips. While nationally biking and walking make up 12% of trips, they make up 14% of traffic fatalities. Meanwhile, federal investments account for only 1.6% of federal transportation spending. (Alliance for Biking and Walking, 5)
- **Small reductions can have big impacts**
 - As can be seen in Figure 1, a modest increase in vehicle travel speeds can result in a much higher risk of fatality with a pedestrian (or bicyclist). Slowing traffic by only 20 mph would dramatically increase the chances of a bicyclist surviving a crash, from a fatality rate of over 80% at 40 mph and only 5% at 20 mph. Alternately, developing facilities which separate bicyclists from motor vehicles would prevent many crashes to begin with.
- **People prefer what is safe**
 - As Figure 2 shows, Teschke et al. found that grade-separated bike lanes or “cycle tracks” are the safest facilities for bicyclists, while riding in mixed traffic is the least safe. (Teschke et al., 2012) Furthermore, these facilities are the kinds that users prefer to ride on. More information on Cycle Tracks can be found in Section 4: Infrastructure Needs.

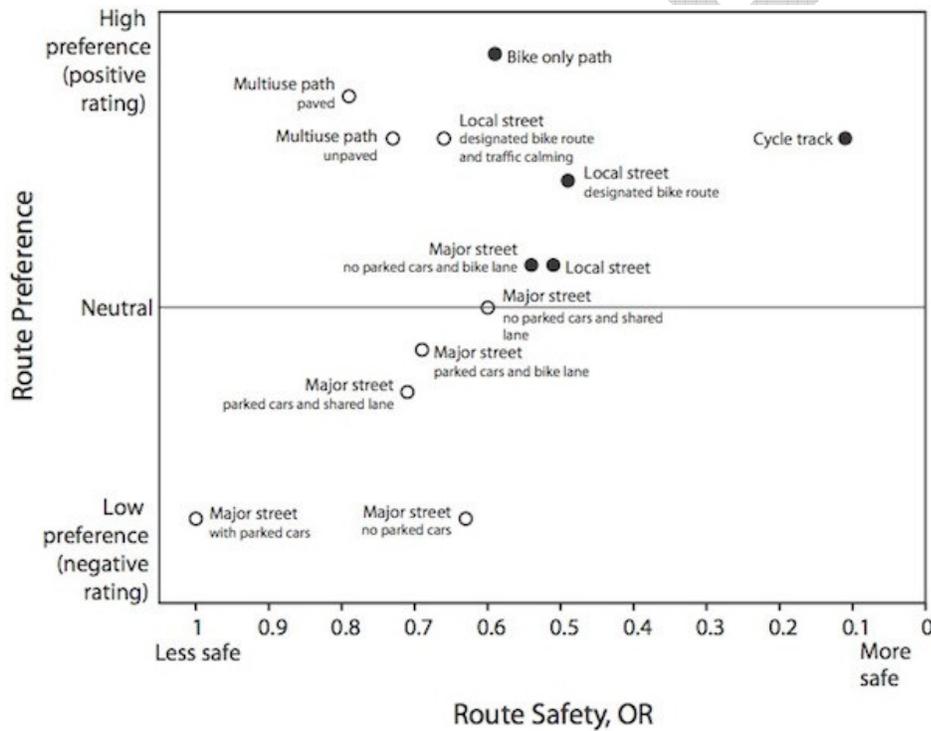
Figure 1: Vehicle Speed and Fatality Rate

Vehicle Speed	Odds of Pedestrian Death, Source 1	Odds of Pedestrian Death, Source 2
20 mph	5%	5%
30 mph	45%	37%
40 mph	85%	83%

Source 1: *Killing Speed and Saving Lives*, UK Dept. of Transportation, London, England.

Source 2: *Vehicle Speeds and the Incidence of Fatal Pedestrian Collisions* prepared by the Australian Federal Office of Road Safety

Figure 2: Route Preference and Safety



Source: Teschke et al.

2. Public Outreach

From February 19 through May 3, 2013, there was an active online survey regarding bicycling in Holyoke (the Holyoke Bike Survey). Additionally, the survey was distributed to the following:

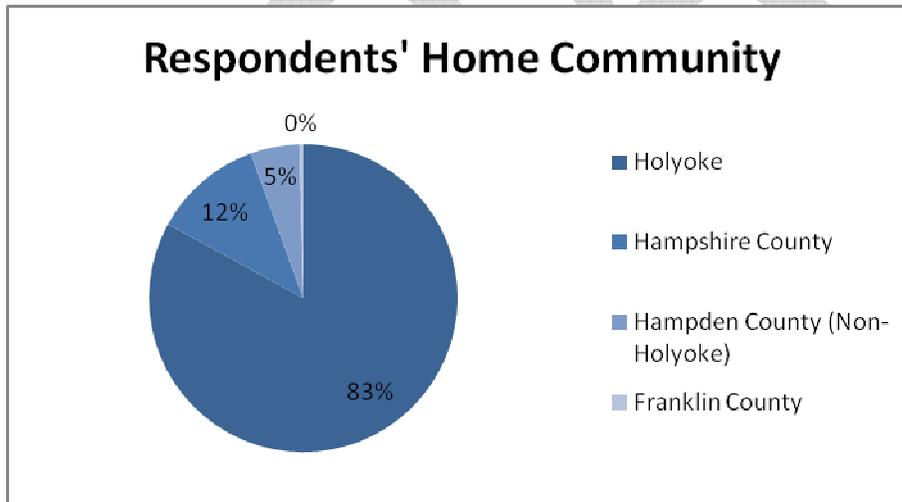
- Holyoke Food & Fitness Policy Council electronic newsletter
- Holyoke Housing Authority- paper copies to 900 family units
- Greater Holyoke YMCA- Facebook page, electronic newsletter
- City of Holyoke webpage
- Holyoke Urban Bike Shop- paper copies
- Peck School- paper copies
- Highland Bike Shop- paper copies
- Competitive Edge Bike Shop- paper copies
- Holyoke Community College- paper copies
- City of Holyoke- email to all municipal employees
- Holyoke Health Center- email to all employees
- Holyoke Medical Center- email to all employees
- Massachusetts Latino Chamber of Commerce
- Nuestras Raices

A list of the open-ended responses is included in Attachment A.

Survey Respondents

Of the 247 respondents, 242 provided their home community. Figure 3 shows the breakdown of where respondents reported living. The vast majority (83%) were residents of Holyoke.

Figure 3. Respondents' Home Community

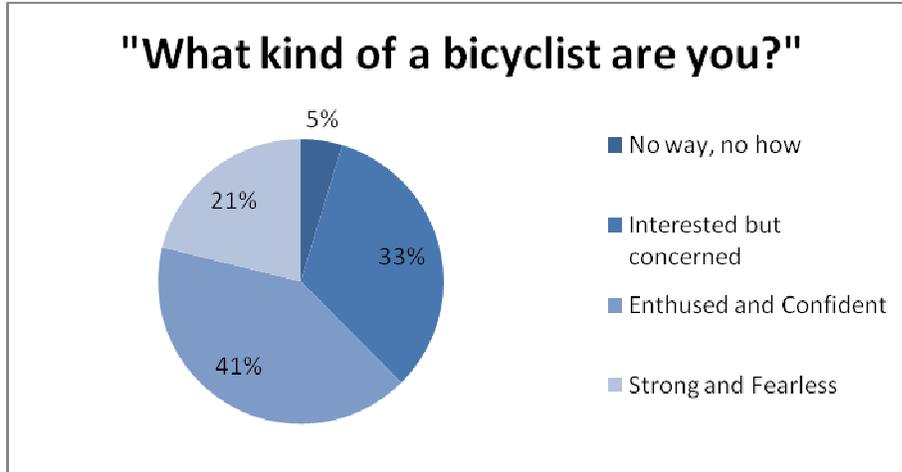


Source: Holyoke Bike Survey

When asked about what kind of bicyclists the respondents considered themselves, the majority of survey respondents identified as “confident” (41%) or “fearless” (21%) (Figure 4). However, one-third of the respondents indicated that they were interested in bicycling, but concerned. This group of “Interested but Concerned” is of keen interest, as this is the segment of the population that would like

to bike more often, but for some reason does not. Overcoming those barriers for this group is the low-hanging fruit to increasing the number of bicyclists in Holyoke.

Figure 4. "What kind of a bicyclist are you?"



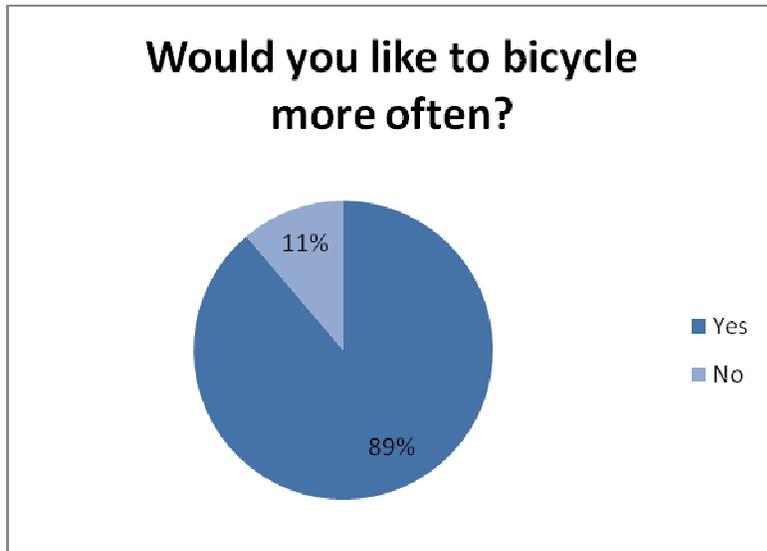
Source: Holyoke Bike Survey

Attitudes

In general, the survey respondents indicated interest in doing more bicycling, but there exist barriers to doing so. In particular, the survey revealed three aspects of biking Holyoke:

Latent Demand – As shown in Figure 6, the overwhelming majority of survey respondents indicated that they would like to bicycle more often (89%). This demand should be noted, because it is not readily evident when looking at travel information data from the Census Bureau or MassDOT – those data only capture executed trips, whereas this question addresses desire for trips not taken. Of the 11% who indicated they did not, those respondents can be broken down into at least two groups – those uninterested in bicycling at all, and those who currently bicycle and aren't interested in increasing the frequency.

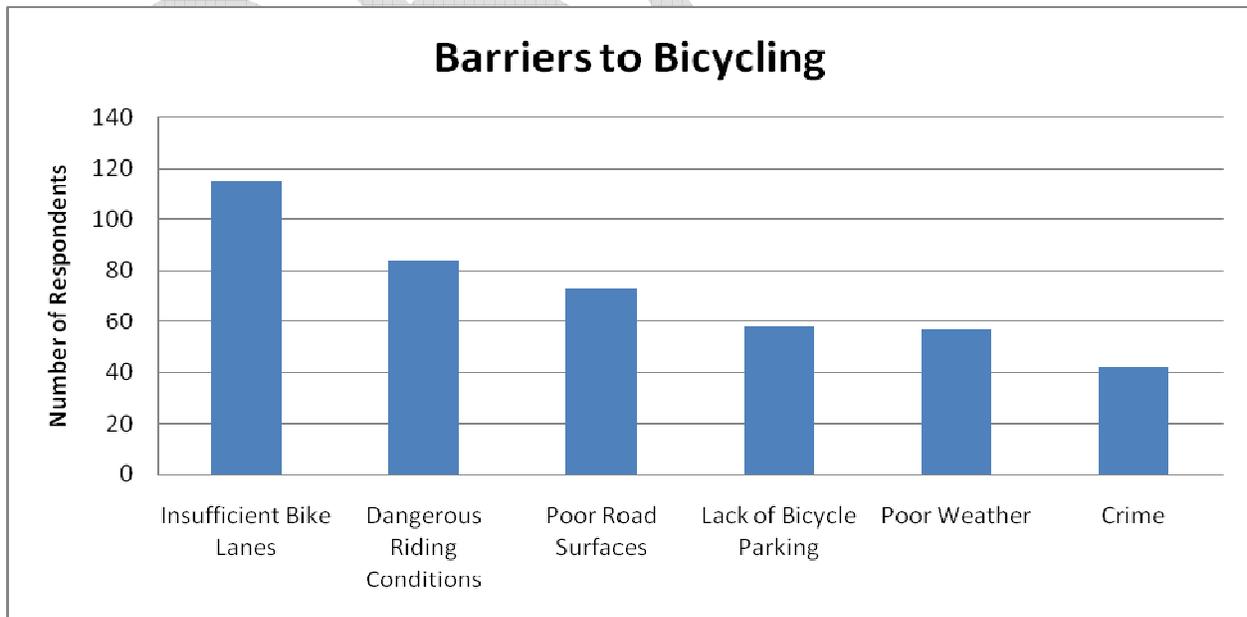
Figure 6: "Would you like to bicycle more often?"



Source: Holyoke Bike Survey

Desire for Separation – As shown in Figure 8, the top barrier to bicycling was lack of bike lanes (115 responses). The second reason, with 84 responses, was dangerous riding conditions (the option's exact phrasing was, "I don't feel safe riding a bicycle in traffic."). These two choices are interrelated. There is much research showing bicyclists have a strong preference for separation from traffic, the primary reason being fear of a collision with a motor vehicle. This question reflects that preference among the survey respondents.

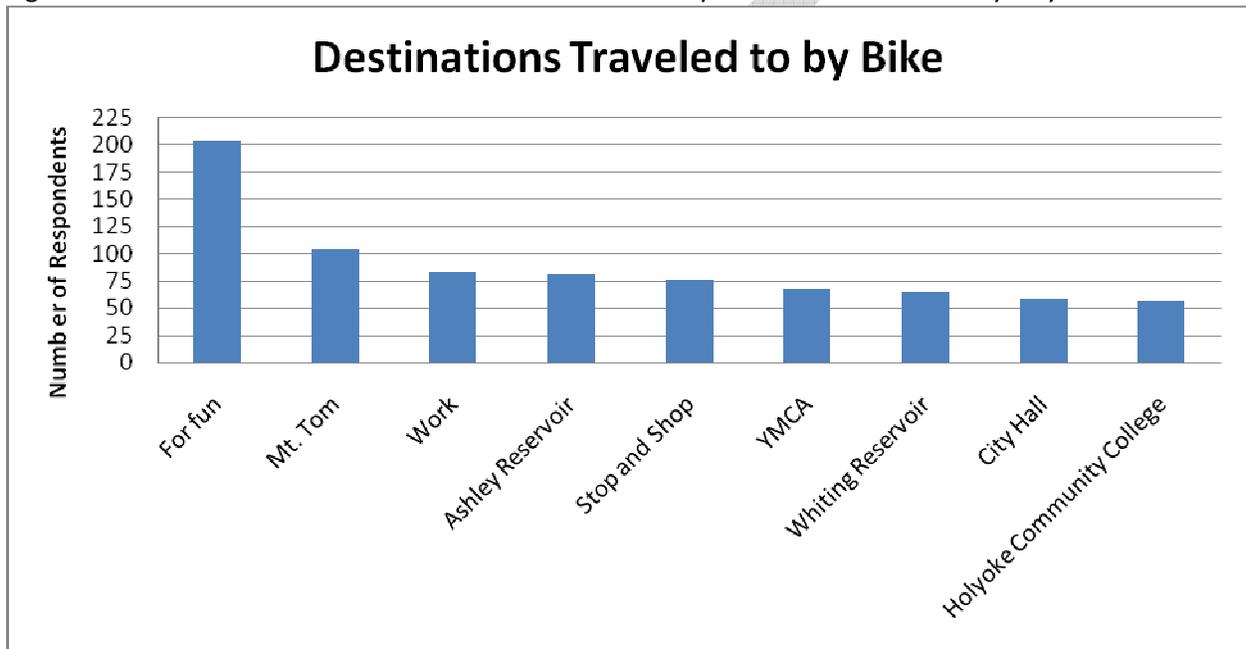
Figure 8: Barriers to Bicycling



Source: Holyoke Bike Survey

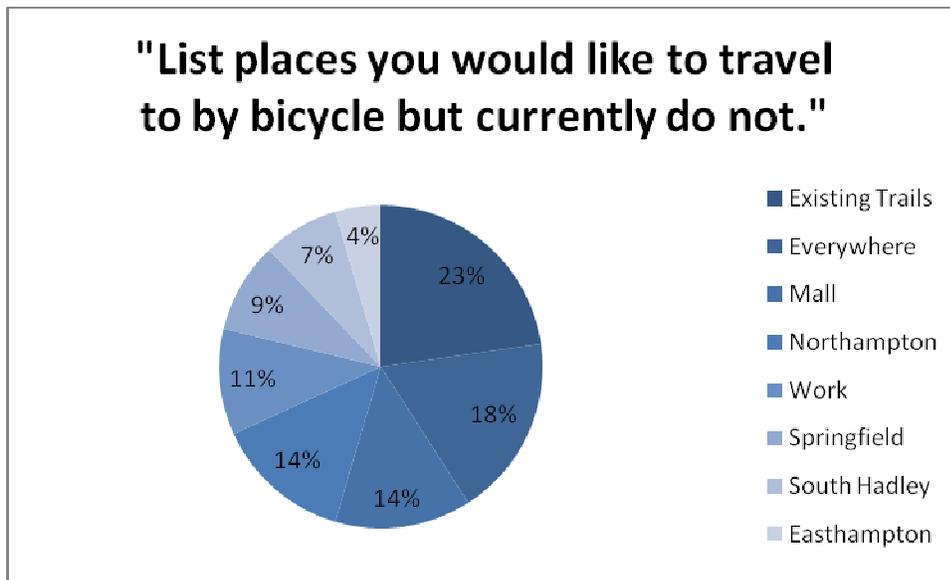
Variety of Destinations – Survey respondents undertake bicycling mainly as a recreational activity, as shown in Figure 5. Out of the 240 respondents, fully 200 responded that they currently ride “For Fun.” The second most common destination was Mount Tom (100), followed by work (80). Moreover, the most common response for place to which respondents would like to bike but currently do not (Figure 7) was existing trails (23%), followed by “Everywhere” (18%). It should be noted that the Holyoke Mall ranked #3 (14%), and work #4 (14%). This would indicate that while recreational riding is the top form of bicycling desired, riding for transportation also ranks highly.

Figure 5: “Please indicate the destinations below to which you have ever traveled by bicycle.”



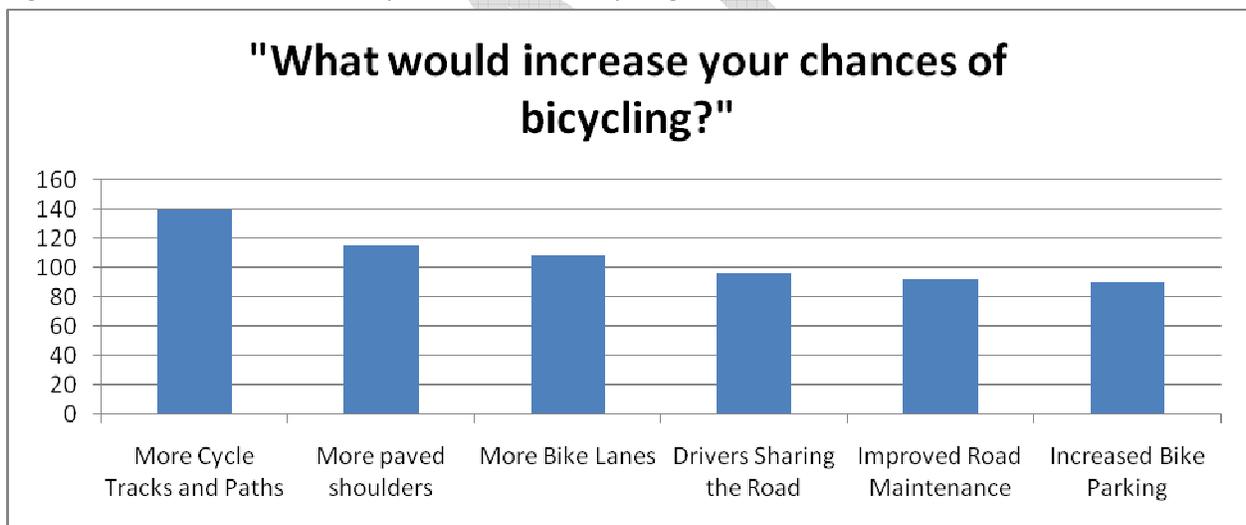
Source: Holyoke Bike Survey

Figure 7: "List places you would like to travel to by bicycle but currently do not."



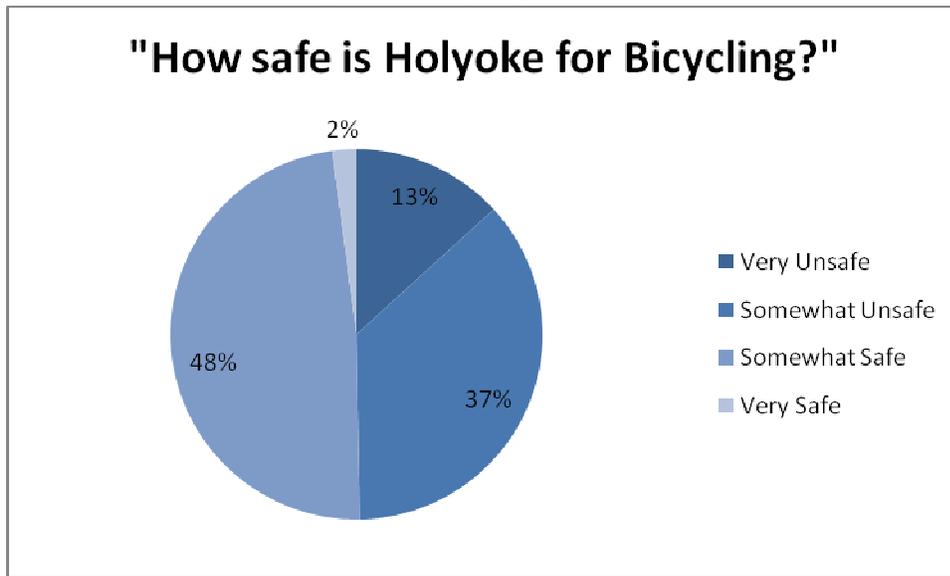
Source: Holyoke Bike Survey

Figure 9: "What would increase your chances of bicycling?"



Source: Holyoke Bike Survey

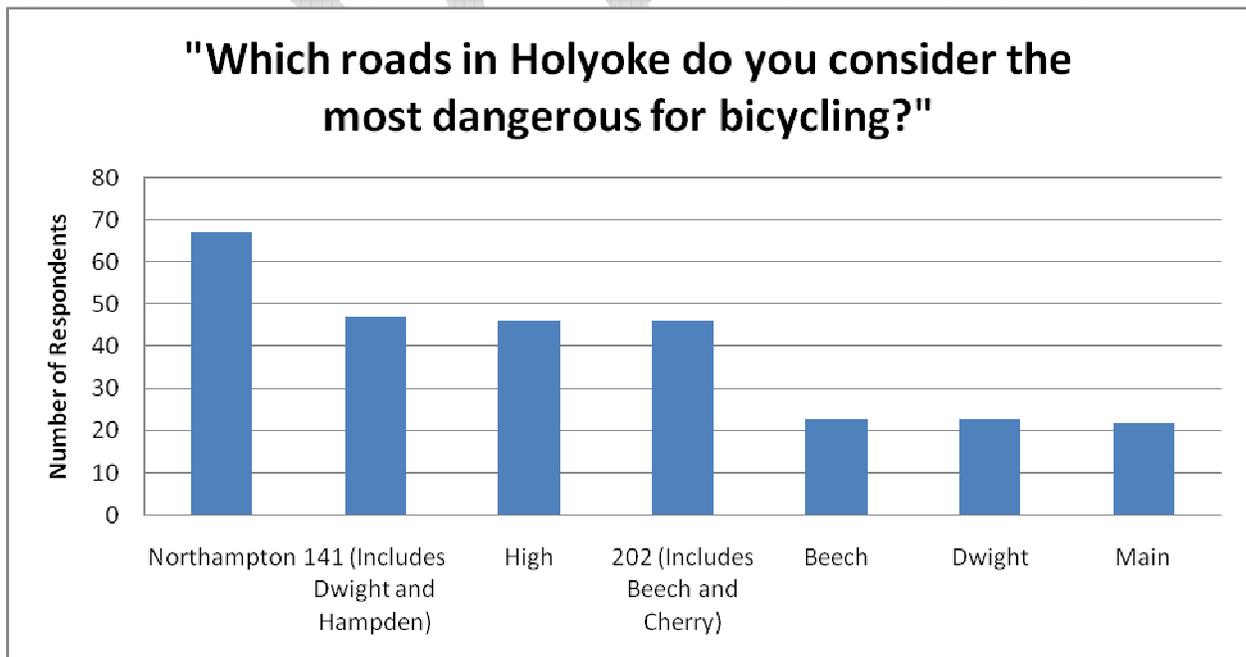
Figure 10: "How safe is Holyoke for bicycling?"



Source: Holyoke Bike Survey

In all, this survey is suggestive that for those who responded, there is a desire to bicycle more often, but safety from vehicular traffic is the major barrier preventing them from doing so. Furthermore, as Figure 11 indicates, it is the routes that are most commonly traversed by automobile and with a density of destinations that are considered the most dangerous. In all, these findings should support expansion of bicycle facilities, particularly in these areas.

Figure 11: "Which roads in Holyoke do you consider the most dangerous for bicycling?" (Top 7)



Source: Holyoke Bike Survey

Open House

On March 20, an open house was held at the Holyoke Senior Center to provide another opportunity for residents to give input on ways to improve bicycling in the city. The twenty participants were encouraged to provide input in three ways:

1. There were two large maps of Holyoke provided for participants to mark up, indicating specific roads or spots in need of attention.
2. There was a large easel pad for participants to leave more general comments.
3. City staff was present to discuss comments and provide feedback on the spot.

The comments can be found in Attachment B and fall into the following categories:

1. **Bicycle Community** – There was a strong desire for more group rides, bicycle events and other activities that would build the relationships between bicyclists in Holyoke. Some examples were: “Midnight Bike Rides”, “Something fun – pancake breakfast, etc.”, and “Bike Ride for St. Patrick’s Day. 5,10,20,50 mile routes. Holyoke Mall Start.”
2. **Safety** – There were multiple specific areas that were identified as in need of safety improvements for bicycling (see Section 3: Current Conditions). Some examples were: “Cherry and Homestead – Dangerous intersection,” and, “Beech St – no room to ride, have to ride on sidewalk. Too busy.”
3. **Connectivity** – There were observations about facilities that end abruptly, forcing bicyclists into general travel lanes. An example: “Poor connection to North Holyoke and the Oxbow (narrow shoulder).” There was also a strong desire for connections to the Manhan Rail Trail.

These comments largely reinforce the open-ended comments from the online survey, found in Attachment A. Some additional topics covered in the survey were:

1. **Education** – Survey respondents noted that bicyclists and motorists both need to be better educated about the rules of the road. An example: “People do not know the rules of the road for bicycles. Both drivers and riders.”
2. **Bike Parking** – Respondents identified bike parking, and specifically secure bike parking, as a need at many locations. Examples: “There is no parking along Rt. 5 in Holyoke for bike parking.” and, “Even having good bicycle parking - I don't trust my bike where I work downtown. I bring it upstairs to my office.”
3. **Recreation** – There are many excellent off-road recreational biking facilities, and Holyoke should encourage the creation of more paved and unpaved trails. An example: “I would love to have a bike path that connects to bike paths in Northampton and Easthampton.”

3. Current Conditions

Prior to this current project, there were three projects undertaken looking at bicycling in Holyoke:

1. Summer 2010 - Holyoke Urban Bike Shop (HUBS) conducted a study tracking which streets bicyclists use;
2. September 2011 - IBI Group produced a work plan for proposed bicycle facilities on Dwight Street and Appleton Street;
3. Fall 2011 - An Open Space and Recreation Survey was conducted which contained questions directly related to bicycling.

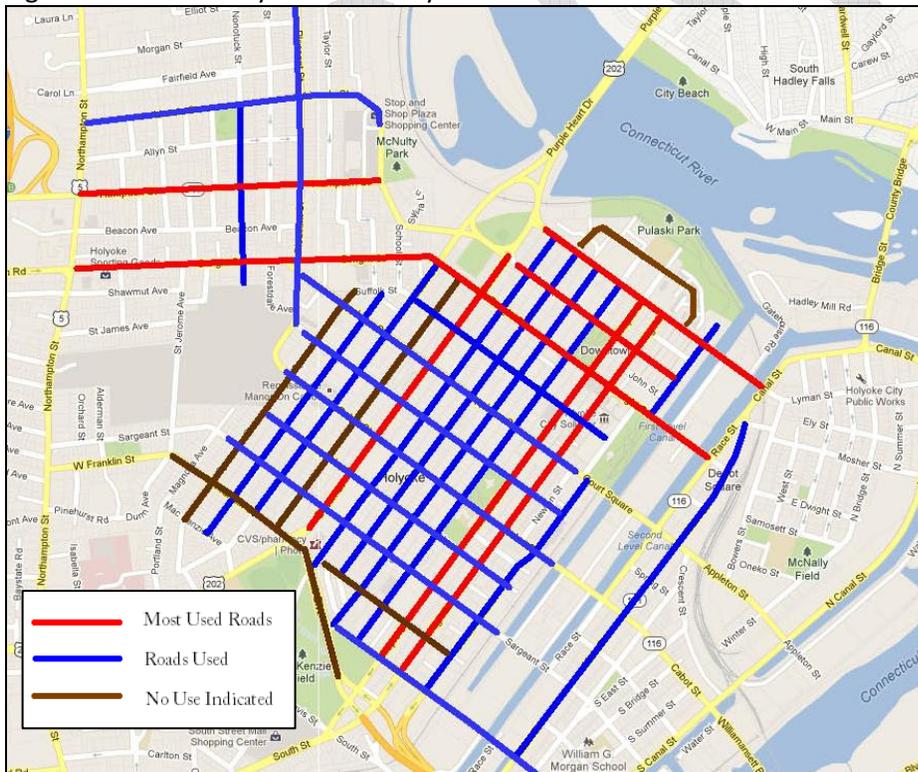
Below, the findings from these efforts are shown along with brief explanations of their relevance. At the end, recommendations for next steps are given.

Holyoke Urban Bike Shop

In the summer of 2010, youth involved with the Holyoke Urban Bike Shop (HUBS) undertook a survey of bicyclists to collect information on route choice in Holyoke’s downtown. The strategy used was an “Intervention Survey,” where the youth actually stopped bicyclists and asked them to identify streets in Holyoke at which they bicycled. The study took place over eight weeks, from July 2010 to the end of August.

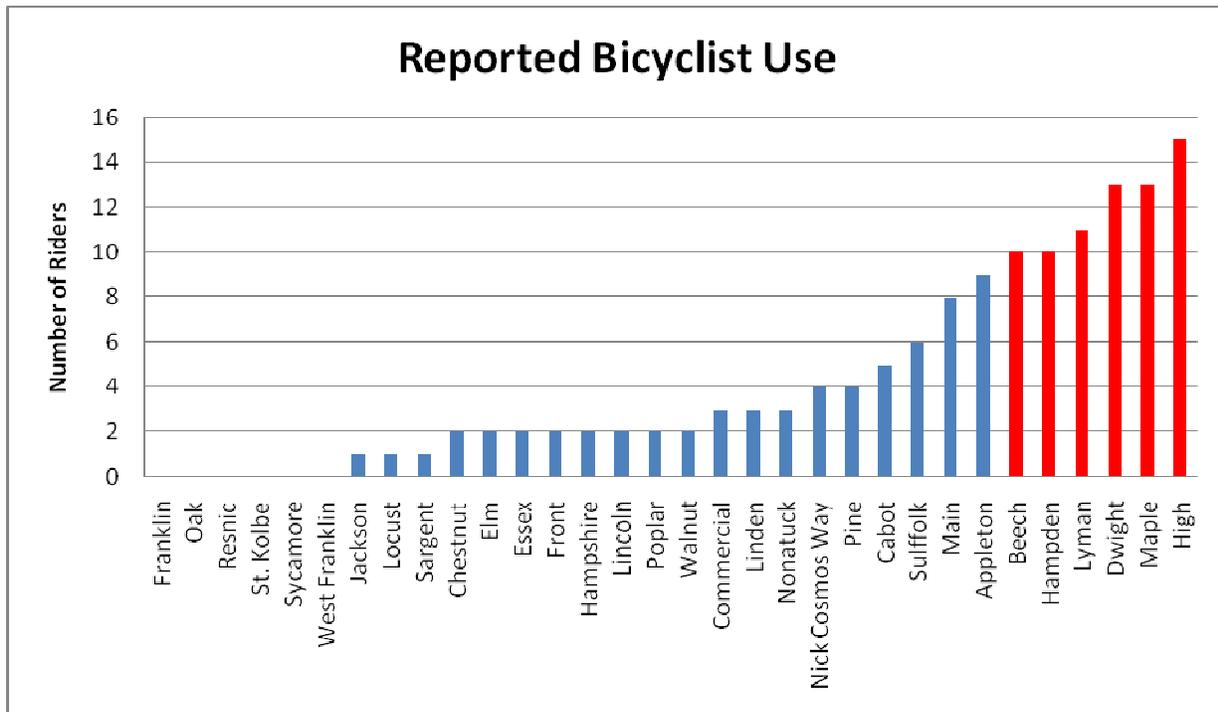
Not surprisingly, High St. and Maple St. were the most commonly recorded; these two streets comprise a main thoroughfare of Holyoke. Of particular interest is that the streets which currently have bicycle facilities (Dwight Street and Hampden Street) were among the highest ranked in terms of bicyclist use.

Figure 12. HUBS Study Area and Bicycle Use



Source: Holyoke Urban Bike Shop Study

Figure 13. HUBS Reported Bicycle Use



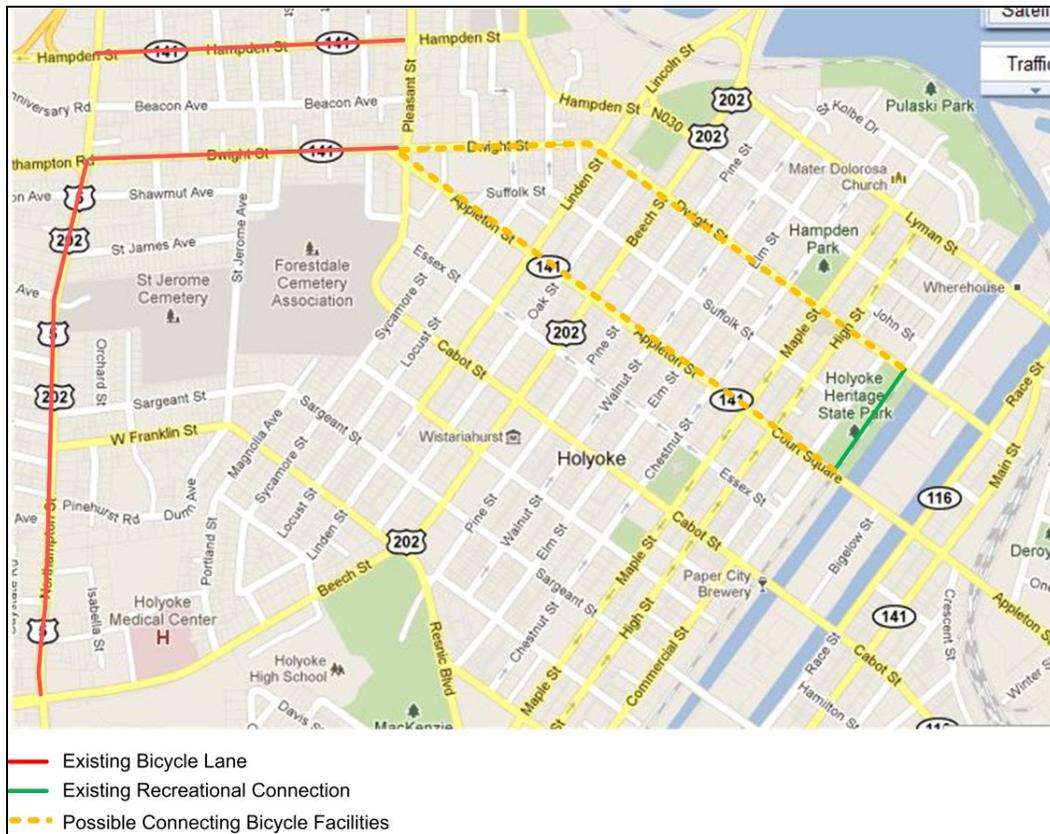
Source: HUBS Study

Dwight/Appleton Street Bike Lanes

In summer of 2011, IBI Group put together a work plan for assisting the City to design bike lanes from their current terminus at Pleasant Street to Holyoke Heritage State Park. The proposed route travels along Dwight Street and Appleton Street. As the report indicates, there are several main considerations when designing bicycle facilities for these proposed bikeways:

1. Maintaining an on-street parking supply where needed;
2. Accommodating bus stops;
3. Making room for auxiliary turn lanes at certain intersections;
4. Designing a safe transition from one-way to two-way traffic on Dwight Street.

Figure 14. Existing and Proposed Bike Lanes



Source: IBI Group Work Plan, 9/30/2011

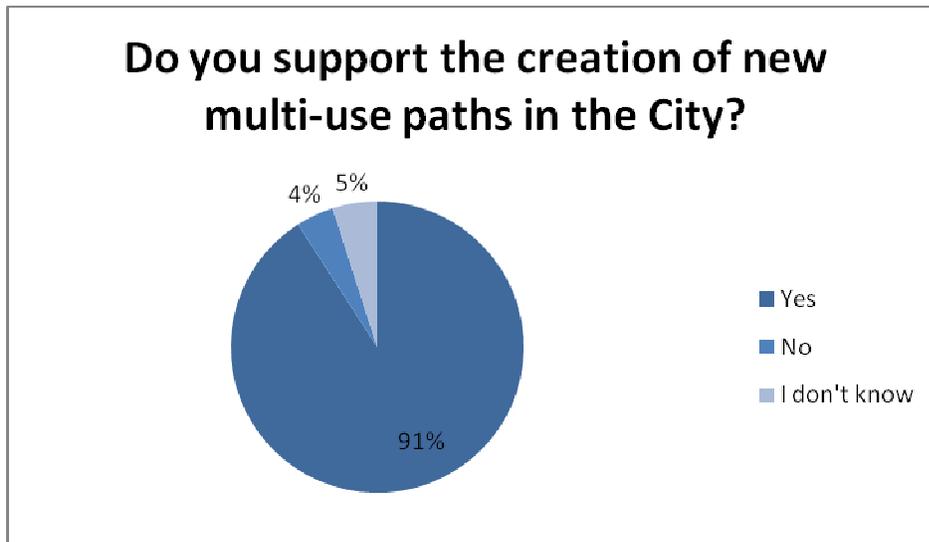
Open Space and Recreation Survey

In fall of 2011, the City of Holyoke undertook a citywide survey of residents regarding their attitudes on open space and recreation, collecting 331 responses. While the survey gathered information on a wide range of topics, a few of the questions related directly to bicycling behavior and attitudes regarding bicycle facilities.

Respondents' Preferences

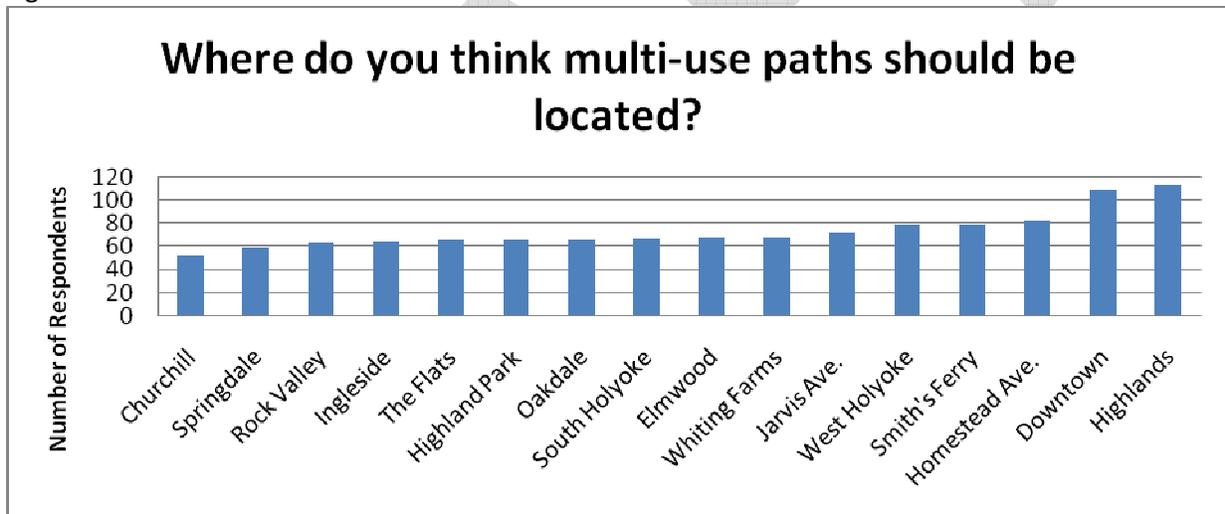
One of the questions was, "Do you support the creation of new multi-use paths in the City?" The responses to this question indicate a strong desire for more multi-use paths (91% reported "Yes") (Figure 15). Of those who wanted more multi-use paths, the two areas cited most frequently as being in need of paths were the Highlands (112) and Downtown Holyoke (108) (Figure 16). However, the largest share of respondents was from the Highlands neighborhood, perhaps explaining the preference for more bicycle facilities in that neighborhood.

Figure 15. Respondents' Multi-use Path Preferences



Source: Open Space and Recreation Survey

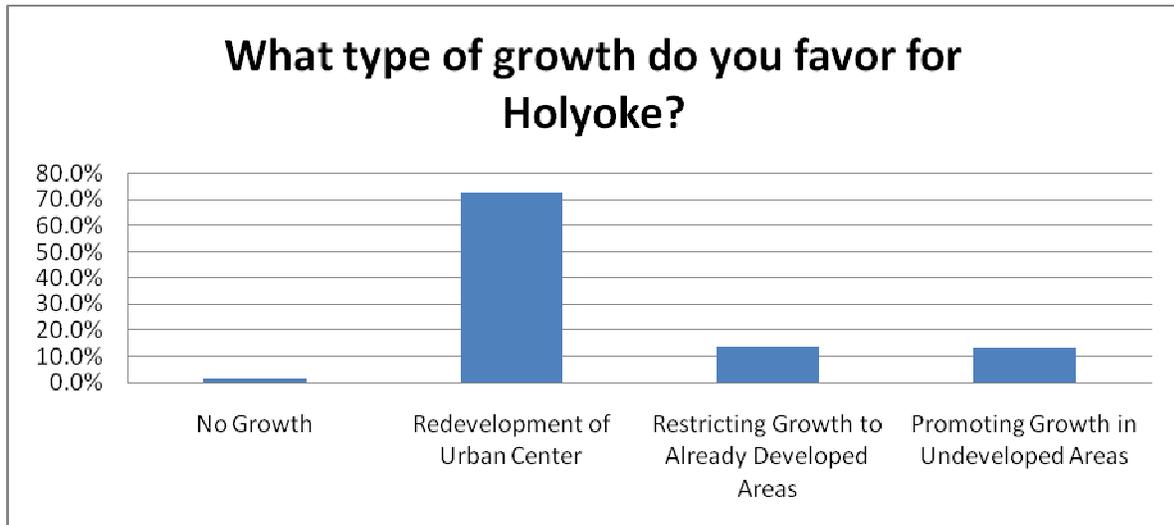
Figure 16. Multi-use Path Location



Source: Open Space and Recreation Survey

Finally, it is worth noting that the majority of respondents (72%) agreed that the redevelopment of the urban center is a favored type of growth (Figure 17). This would imply that as redevelopment occurs in the downtown area, bicycle facilities should be included.

Figure 17. Favored Growth Pattern

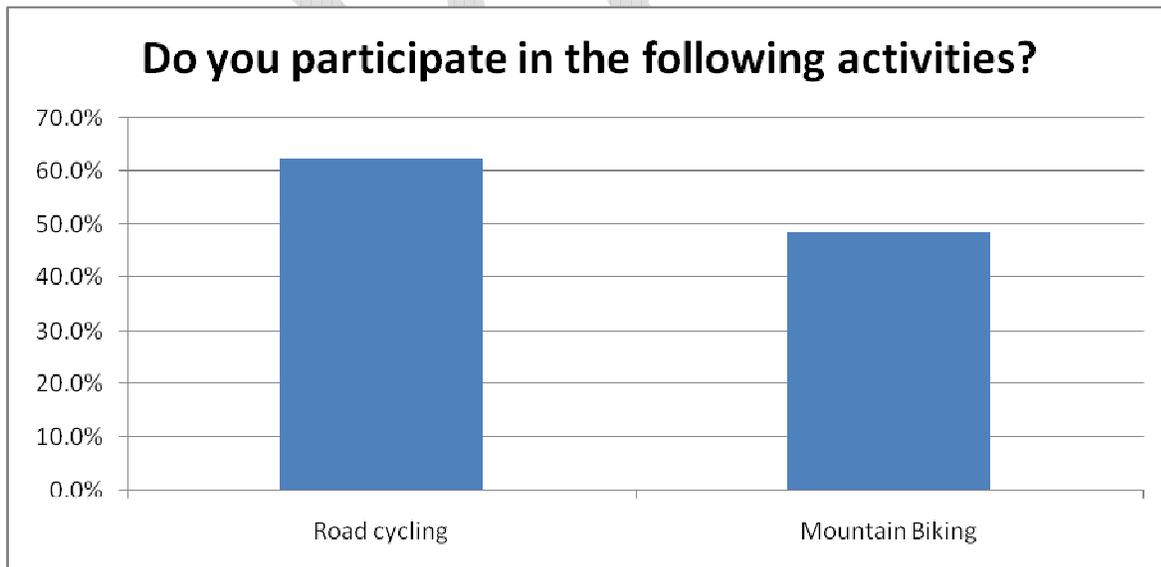


Source: Open Space and Recreation Survey

Bicycling Behavior

The majority of Open Space Plan Survey respondents indicated that they had at some point participated in road cycling (62.4%), and just under half had also participated in mountain biking (48.6%) (Figure 18). A limitation of this question is that it does not provide information on frequency of bicycling – it would apply equally to people who bicycle once per year as to those who do it daily. Nonetheless, it does indicate that a large section of the population participates in these activities.

Figure 18. Bicycling Participation



Source: Open Space and Recreation Survey

4. Infrastructure Needs

Developing bicycle-specific infrastructure can be undertaken in a range of ways, from high-cost retrofits to low-cost paint and signage. Below is an overview of various bicycle-friendly designs as described by the American Association of State Highway and Transportation Officials (AASHTO), the Massachusetts Department of Transportation (MassDOT), and the National Association of City Transportation Officials (NACTO).

1. Sharrows (Image 5) – In instances where the roadway is too narrow to accommodate a bike lane, Sharrows (also called “Shared Lane Markings”) can be used. These should be considered minimal facilities, and are not preferred if a bike lane is feasible. AASHTO explains, “The marking . . . alerts road users to the lateral position bicyclists are likely to occupy within the traveled way, therefore encouraging safer passing practices . . . Shared lane markings may also be used to reduce the incidence of wrong-way bicycling.” (American Association of State Highway and Transportation Officials, 4-4)

Image 5. Sharrows.



Location: Boston, MA

2. Colored bicycle lanes (Image 6) – The visibility of typical bicycle lanes can be increased by coloring in portions or entire lengths with green paint. As described by AASHTO, “Colored pavement may be used to denote the presence and preferred position of bicyclists and an appropriate travel path within the traveled way . . . Green colored pavement may be retroreflective, but there is no requirement or recommendation that it be retroreflective.” (AASHTO, 4-21).

Image 6. Colored Bicycle Lanes.



Location: Boston, MA

3. Dashed bicycle lanes (Image 7) – Depending on the intersection, it may be preferable to stripe dashed lines through an intersection. This not only provides guidance to bicyclists, but also provides a visual cue to motorists. AASHTO recommends, “Bike lanes are not normally striped through the middle of intersections; however, where extra guidance is needed, it may be appropriate to use a dotted line to guide bicyclists through an undefined area.” (AASHTO, 4-22)

Image 7. Dashed Bicycle Lanes.



Location: Northampton, MA

4. Colored Bike Lane and Turn Lane (Image 8) – Depending on the intersection, it may be necessary to color dashed bike lanes through intersections to further highlight the potential conflict point.

This is especially true for obtuse-angle turns at high-volume intersections. AASHTO recommends, “If [colored pavement is] used in conjunction with dotted lines, such as when extending a bike lane across an intersection, the colored marking can match the dotted line pattern, filling in the area connecting the opposing dotted line segments.” (AASHTO, 4-21) AASHTO goes on to note, “Dotted bike lane extension lines can be used to guide bicyclists through long, undefined areas at large, skewed, or multi-leg intersections.” (AASHTO, 4-23)

Image 8. Colored Bike Lane and Turn Lane.



Location: Boston, MA

5. Bike Boxes (Image 9) – Bike Boxes, while not adopted yet by AASHTO, are included in the NACTO Bikeway Design Guide. While there are many benefits to Bike Boxes, the main safety benefit is the reduction of “Right Hook” crashes (wherein a motor vehicle turning right collides with a bicyclist traveling straight). According to NACTO, “This is especially important in areas with high volumes of right-turning vehicles and/or trucks, whose high cabs make it difficult to see a bicyclist on the right, and who begin their turning maneuvers by going straight, which can deceive a bicyclist into thinking the truck is not turning. ‘Cyclists travelling straight ahead were found to be able to position themselves in front of the traffic thus reducing the risk of conflict with ... turning vehicles.’” (<http://nacto.org/cities-for-cycling/design-guide/intersection-treatments/bike-boxes/>)

Image 9. Bike Boxes.



Location: Boston, MA

- Road Diets (Image 10) – Road diets could be especially promising in Holyoke, where the population has declined, leaving excess road capacity. By reallocating excess road capacity on some streets, room is made for bicyclists. AASHTO describes Road Diets in this way: “Road Diets have many benefits, often reducing crashes; improving operations; and improving livability for pedestrians, bicyclists, adjacent residents, businesses, and motorists. A common lane reduction treatment is to convert an undivided four-lane (two-way) roadway to a three-lane roadway (central two-way left-turn lane . . .).” (4-30)

Image 6. Road Diet.



- Bicycle Boulevards (Image 11) – Holyoke is fortunate to have a grid system, one of the only cities planned in that way in Massachusetts. Bicycle Boulevards are minor roads that are designated as bicycle routes, discouraging motor vehicle travel. These bikeways often parallel major routes for automobile traffic, creating a sort of “Bicycle Arterial.” AASHTO notes, “Bicycle boulevards create favorable conditions for bicycling by taking advantage of local streets and their inherently bicycle-friendly characteristics: low traffic volumes and speeds.” (AASHTO, 4-33) For Bicycle Boulevards to be successful, increased protection at road crossings, traffic calming elements, and signage may be necessary.

Image 11. Bicycle Boulevard.



Location: Portland, OR

8. Speed humps (Image 12) – Speed humps are one of a number of traffic calming treatments that can be used to reduce travel speed of motor vehicles. The Massachusetts Project Development and Design Guide notes, “Speed humps are intended to let vehicles operating at intended speeds pass with little discomfort to the driver, no bouncing of loads in trucks, and little noticeable stress (for example, bottoming out) of the vehicles. Because driver discomfort rises rapidly as their design speed is exceeded [generally 15-20 mph], humps are an effective measure for controlling speeds.” (AASHTO, 16-31)

Image 12. Speed Hump.



Location: Watertown, MA

9. Grade-separated bikeways (also called Cycle Tracks, see Image 13) – Grade-separated bikeways have not been formally adopted by AASHTO, though are being used around the country and internationally. Inside Massachusetts, two such facilities have been built in Cambridge with more planned in Cambridge and Boston. International leaders in biking like Amsterdam and Copenhagen feature them as the preferred infrastructure, and bicycle professionals in America are following suit. The NACTO guide recommends, “Cycle tracks may be one-way or two-way, and may be at street level, at sidewalk level, or at an intermediate level. If at sidewalk level, a curb or median separates them from motor traffic, while different pavement color/texture separates the cycle track from the sidewalk. If at street level, they can be separated from motor

traffic by raised medians, on-street parking, or bollards. By separating cyclists from motor traffic, cycle tracks can offer a higher level of security than bike lanes and are attractive to a wider spectrum of the public.” (<http://nacto.org/cities-for-cycling/design-guide/cycle-tracks/>)

Image 13. Grade Separated Bikeway (Cycle Track).



Location: Cambridge, MA

10. Grade-separated bikeways at roundabouts (Image 14) – There is unfortunately little research on the safety impact of roundabouts on bicyclists. In principal, slower traffic is safer for all users of the road, as the likelihood of a fatal crash decreases dramatically with reductions in travel speed (see Figure 1). However, because roundabouts typically force bicyclists to merge with motor vehicle traffic, this creates a potential conflict at the choke point. AASHTO recommends, “Some on-road bicyclists, including children, may not feel comfortable navigating roundabouts on the roadway. Bicycle ramps can be provided to allow access to the sidewalk or a shared use path at the roundabout.” (AASHTO, 4-65) Given the strong preference of bicyclists for separation from car traffic (see Section 3: Public Outreach), preference should be given to this design.

Image 14. Grade-Separated Bikeway at a Roundabout.



Location: Olympia, WA

11. Wayfinding Signage (Image 15) – Wayfinding signage should not be considered a substitute for other bicycle facilities, such as bike lanes. However, wayfinding signage is an excellent complement to existing bicycle networks, giving more guidance to bicyclists on suggested routes or nearby destinations. AASHTO notes, “. . . the placement of wayfinding signs does not necessarily reduce bicycle crashes, because the signs do not alter the geometric design or traffic volume and speed of the roadway. For this reason, it may be desirable to supplement bicycle wayfinding signs with other roadway improvements . . .” (AASHTO, 4-36)

Image 15. Way-finding Signs.



Location: Eugene, OR

12. Parklets and Bike Corrals (Image 16) – Parklets are on-street parking spaces that are repurposed into public space, typically adding seating near restaurants or cafes and occasionally paired with bicycle parking (also known as “Bike Corrals”). Parklets are particularly useful in urban core areas where outdoor seating is lacking, and can also be a way to use public space more efficiently, especially in areas where on-street parking is underutilized. In addition, parklets are easily removed if the adjacent business owners request it. The San Francisco Department of Public Works notes: “Installing a Parklet is one way to activate the space in public rights-of-way as part of the SF Better Streets Plan. Parklets provide an economical solution to the desire and need for wider sidewalks and are intended to provide Space for the general public to sit and enjoy the space where existing narrow sidewalk would preclude such occupancy.” (SFDPW)

Image 16. Parklet and Bike Corral.



Location: Lexington, MA

General Infrastructure Recommendations

In general, there are three major considerations when examining different kinds of bicycle infrastructure:

1. **Separation From Traffic** – As indicated in the Holyoke Bike Survey, in addition to other research, bicyclists have a strong preference for dedicated road space (e.g. a bike lane) and separation from traffic (e.g. a multi-use path). There is often insufficient road width for dedicated space, often due to on-street parking. As can be seen in Figure 19, parking utilization rates should be considered so as to most efficiently use road space.
2. **Traffic Speed** – The greatest safety threat to a bicyclist by far is high-speed traffic. As shown above in Figure 1, small increases in travel speed can result in a large increase in the likelihood of a fatal bike (or pedestrian) crash.
3. **Connectivity** – Creating a connected bicycle network is essential to success. There should always be a vision for connections between destinations, be they commercial, residential or recreational, and abrupt interruptions in bicycle facilities should be avoided.

Figure 19: Oversupply of On-Street Parking

Type of Parking	Supply	Utilization	Excess Capacity
On-street	1,708	40%	775
Off-street	757	53%	280
Combined	2,465	44%	1,055

Source: HRA, 2-26

These three issues are highlighted not only by bicycle professionals, but are also reflected in the survey and open house described above. The bicycle-specific infrastructure highlighted in the previous section, such as bike lanes, speed humps, and parklets, all serve to enhance those three considerations.

Based on the survey and open house, there should be three focuses for improving bicycle infrastructure in Holyoke:

1. **Multiuse Path Connections** – According to the findings of the Holyoke Bike Survey, the number one interest was in connecting Holyoke to existing paths and path networks. In particular, there was interest in connecting Holyoke to the Manhan Rail Trail which extends from Easthampton to Northampton.
2. **Downtown Holyoke** – As described in Section 3, respondents to the Open Space Survey indicated a strong desire for more trails in the downtown area. In terms of economic development, the downtown would benefit greatly from having streets that support more active transportation.
3. **Holyoke Mall** – The Holyoke Bike Survey also indicated a strong desire for better bicycle connections to the Holyoke Mall. The preferred route indicated at the Open House and by frequent community bicyclists is along Highland Avenue and Whitney Avenue. This travels partially through West Springfield, and so any bike route would need to be coordinated with them.

General guidance on the relative cost of these infrastructure features is found in Figure 19. This chart gives a general sense of the options and how much they cost, in addition to the typical timelines for the implementation of these treatments. A detailed engineering analysis would need to be undertaken to understand the actual cost for specific projects.

Figure 20: Relative Cost and Timeline of Bicycle Facilities

	Low Cost	Higher Cost
Near Term	Signage Sharrows Bike-Sensing Signal Detectors Bike Lanes Parklets Bike Box Colored Bike Lanes	
Longer Term	Speed Humps	Road Diet Raised Intersections Multi-Use Path Cycle Tracks

5. Funding Sources

Funding is always an issue for developing new projects. Fortunately, bicycle projects tend to be relatively inexpensive. However, municipal, state and federal budgets are all currently being squeezed, and so most municipalities struggle just to keep up with maintenance. Fortunately, there are several sources of funding which can support bicycle projects.

Transportation Alternatives Program

Most federal support for bicycle-specific projects comes from the Transportation Alternatives Program (TAP). This program funds the following bicycle-specific uses:

- Pedestrian and Bicycle Facilities – This includes sidewalks, walkways or curb ramps; bike lane striping, wide paved shoulders, bike parking and bus racks; traffic calming; off-road trails; bike and pedestrian bridges and underpasses; ADA compliance.
- Safe Routes for Non-Drivers – Access and accommodation for children, older adults, and individuals with disabilities.
- Conversion of Abandoned Railway Corridors to Trails – Acquisition of railroad rights-of-way; planning, design and construction of multiuse trails and rail-with-trail projects.

TAP funding is provided by the federal government and allocated to the Metropolitan Planning Organizations. For more information on funding availability, the Pioneer Valley Planning Commission should be contacted. (<http://www.fhwa.dot.gov/map21/guidance/guidetap.cfm>)

Local Aid (Chapter 90)

Chapter 90 funding is a local aid reimbursement program for road projects funded from the Commonwealth. Chapter 90 funding is apportioned by formula, and in FY13 Holyoke was apportioned just over \$1 million. This funding is extremely flexible, and can generally be used for bicycle and pedestrian facilities within road right of way. Off-road paths are not eligible for Chapter 90 funding. (<http://www.mhd.state.ma.us/ch90FY.asp>)

Community Preservation Act

The Community Preservation Act (CPA) is a state matching program that serves to promote the preservation of open space, historic sites, and affordable housing in the Commonwealth's communities. Communities that vote to adopt the CPA raise funding locally through a property tax surcharge, which is then matched by the state at a rate currently of around 30%.

CPA funding must be approved by a municipal committee and adopted into the budget. Bicycle and pedestrian facilities located in recreational open spaces is eligible for funding, though would not apply to road projects. Holyoke is currently not a CPA community, and would have to adopt it through referendum. (<http://www.communitypreservation.org>)

6. Conclusion

There is much opportunity for Holyoke to improve its bikeability. The city's grid pattern lends itself to easily designing lower-traffic bicycle routes parallel to major roads, and the compact downtown makes bicycling for transportation relatively easy. Beyond infrastructure elements, there are other policies and programs which the City could pursue that are not dealt with in depth in this report. They include:

Policies

- **Complete Streets Policy** – A Complete Streets Policy is a policy which encourages or requires road projects to incorporate bicycle, pedestrian and transit (where applicable) elements into the design, in addition to motor vehicle considerations. Complete Streets policies are gaining traction nationally, including inside Massachusetts. The MassDOT Project Development and Design Guide expressly includes bicycle and pedestrian considerations into the project design process. Furthermore, Boston has developed its “Complete Streets Design Guide” which guides the design of Boston’s road projects. Holyoke could adopt a Complete Streets Policy to create an environment where road projects include bicycle elements as a routine aspect of the design process, and in so doing gradually transform the streets.
(<http://www.smartgrowthamerica.org/complete-streets>)
- **Zoning Requirements/Site Plan Review** – Municipalities often feature the inclusion and appropriate placement of bicycle parking as a part of the site plan review process for new developments. For major developments, zoning requirements including shower facilities and secure bike parking are another element that could be included in the zoning code.
- **Parking Policies** – In many ways, parking policy dictates traffic on a city’s streets. Parking pricing can be used as a way to encourage non-automotive travel (if expensive) or more driving (if free). In addition to being a source of revenue, the availability of parking can be the difference between a trip taken by car or by bike. Furthermore, it is up to the municipality to prohibit parking in bike lanes, which even more directly impacts bicycling.

Programs

- **Enforcement Programs** – Infrastructure can do much to guide the behavior of road users. However, concrete and paint have their limits. As bicycling increases, new enforcement programs must be developed to deal with conflicts between motorists and bicyclists. The most important aspect of any enforcement program is equitable enforcement between motorists and bicyclists, and not just targeting one or the other.
- **Bike Safety Education Programs** – There are many kinds of bicycle safety education, including workplace brownbag presentations, in-school child safety presentations, and on-bike trainings. Education is another crucial component of improving the bicycling environment of Holyoke.
- **Bike-Friendly Business Programs** – One relatively low-cost way that municipalities can encourage businesses to install bike racks, showers, sheltered parties, and other bicycle amenities is to create a “Bike-Friendly Business” designation. Typically there is an application process for the businesses, and in return they get listed on the municipal website and a sticker

for their window. The advantage of this is relatively low investment of staff time and other resources.

- **Bicycle Recycling Programs** – Municipalities or nonprofits can fill a need through taking donated bikes, refurbishing them, and then reselling them or giving them away to low-income households. The availability of a bike is often a major impediment to bicycling for lower-income households, and programs like this can overcome that barrier.

Recommendations

Three things are clear from the public input and site visits. They are:

1. There needs to be an expanded constituency for bicycling. Ultimately, the goal should be to have a Bicycle Advisory Committee or local non-profit group providing input on a regular basis for bicycle issues. One excellent model is Northampton, which has a Transportation and Parking Commission along with a Bicycle and Pedestrian Subcommittee. This committee works directly with city staff and provides ongoing input on city projects. For more information, refer to <http://www.northamptonma.gov/tpc/>

Some specific things the City of Holyoke could do to support this goal are:

- Pre-existing events should be examined to see if a bicycle-related component could be included, such as the farmer's market, the Saint Patrick's Day Parade, and other community events.
 - Put out a call to local residents to determine interest in participating in a Bicycle Advisory Committee.
 - Advertise bicycle resources (safety information, bike shop locations, etc.) on the City's website.
2. The next recommendation is to create a comprehensive bicycle plan to address the intersections and roads identified above. Ultimately, having a comprehensive plan is needed in order to undertake deliberate efforts at expanding the bicycle network in the most effective way possible. The public outreach undertaken through this project indicates a general support for more biking, with significant concerns about safety.

Some next steps to support this goal are:

- Key bicycle routes connecting major points of interest should be identified using public input.
 - As road projects are planned, part of the project should be establishing on-street parking utilization rates and needs.
3. The final recommendation is to look seriously at the creation of multi-use path connections to other recreational trails, potentially along the Connecticut River. Rail Trail projects tend to take 10 or more years to go from idea to asphalt, but the payoff could be tremendous. Rail Trails serve to highlight bicycling in a community, and can serve as an anchor for economic

development.

Some next steps for this recommendation are:

- The Department of Conservation and Recreation and the Pioneer Valley Planning Commission should be contacted to assist with determining viable route alternatives for connections to other trails.
- Establish dialogue with the Town of Easthampton and the Friends of the Manhan Rail Trail to help determine the process for connecting Holyoke into the trail system.

DRAFT

Attachment A: Open-Ended Survey Responses

- People do not know the rules of the road for bicycles. Both drivers and riders
- It would be great to bike to mall, but is extremely dangerous, and terrifying!!
- I LOVE TO BIKE BUT IT IS HARD TO GO AT NIGHT. THE BETTER STREETS FOR SAFETY ARE 1 WAY AND IT IS AGAINST CURRENT LAW TO TRAVEL THE WRONG WAY ON THEM. NO ENFORCEMENT OF PEOPLE IN CARS RUNNING RED LIGHTS IN HOLYOKE,
- The problem with the current Hampden St. bike lane is it just ends without proper markings. It needs clear markings at the lights. Same for Dwight St. In general, other than narrow shoulders, roads are fine until you reach traffic lights and then it is unclear where bikes should go.
- Programs such as Bike not Bombs would do well in Holyoke.
- I like the idea of checking out bicycles even though I wouldn't personally need that service
- Even having good bicycle parking - I don't trust my bike where I work downtown. I bring it upstairs to my office.
- I love to put my bike on PVRTA buses to attend Discover Holyoke Day and festivals at Nuestras Raices' finca. It's great to see history, architecture, & landscape architecture by bike!
- The shoulders are the dirtiest, least maintained parts of the roads.
- Please lift the restriction on the Mueller Bridge
- I try to stay in the woods as much as I can or I take on the back roads lot less traffic you can't mountain bike at mt tom so I go behind hcc
- Need more bicycle lanes on major streets.
- tons!
- We need designayed separate from road bike paths
- We need a path that goes from the Manhan Rail Trail up to Mt. Tom.
- Hills make the difference when planning my routes, so I pick less vehicularly traveled routes that aren't too steep.
- please please please separated bike lanes especially on rt 5, separated with a concrete barrier, i saw a cyclist hit in front of me right by mt park on rt 5 - there is plenty of shoulder, cars just don't pay attention and since they're not separated by a concrete barrier from cyclists they drift over into them
- As a bicyclist and a driver I feel it is unsafe for everyone for bike to share road with vehicles. Creating separate areas/larger lanes for bike travel may help. Currently most cyclists hug the bike lane to the point of impeding motor vehicle traffic which is a huge safety concern for everyone
- It needs a Bicyling Trail
- High St., Maple St., Main St., Appleton St., and Beech St. should have bike lanes.
- No, I am most familiar and comfortable cycling in West Holyoke by Hampton ponds because that is where I lived, but cycling downtown could be fun too.

- Holyoke has so many biking options for people of all ages and abilities. The problem is that nobody knows...maybe that's not a problem. Rock Valley has excellent mountain biking and would be a great draw if it connected to Ashley Res. There is no parking along Rt. 5 in Holyoke for bike parking. A rail trail along the river connecting to the NoHo/Easthampton bike paths to downtown would be awesome.
- I want a remote that will allow me to turn the lights green in my favor as I approach them. I would hit the button and the traffic would be stopped. I'm serious, I would use it.
- I would love to Holyoke to have a safe bike path that connect the downtown with important places in the city and adjacent towns and cities.
- bicycle laws ,
- There needs to be more street trees to give bikers shade in the summertime. The heat from the road makes biker sweat more. Isreal has pay as you ride bikes. Very cool system. Would live to see that in Holyoke.
- highland bike shop is great for all safety equipment and safety checks on bicycles. police should ride bicycles on patrol to save gasoline money and vehicle expense.
- There needs to be a safer means of getting from Holyoke to Easthampton - as of right now the options really are ride up 141, ride up 202 or go the long way on Route 5 - perhaps the path between West Cherry St in Holyoke and West Cherry in Eho could be turned into a path?
- South Holyoke streets are covered in broken glass.
- Cyclist education is also important. Less bikes on sidewalks, less bikes going wrong way down one ways, less bikes riding against traffic. Standardize cyclist behavior to make drivers less annoyed by them.
- I commuted to Springfield by bicycle for a few years. It was great except for a very narrow stretch of 116 past WWLP and Blue Seal in Chicopee. Would love for Holyoke to work with surrounding towns to establish "commuter routes" and perhaps raise awareness and funds for problem areas. Another issue is a narrow stretch while traveling to Northampton on Route 5 near the oxbow. Again not technically in Holyoke but is something Holyokers encounter while commuting to Northampton. Would also like to be more informed about bringing my bike on PVTa and what PVTa routes connect with bike routes.
- I'm not experienced enough to name specific roads as particularly dangerous, but in general I try to avoid roads with high-volume/high-speed traffic but no separation for cyclists. Also, the downtown roads that are very narrow with cars parked all the way to the corners get me nervous though I still bike on them of necessity. Fellow cyclists' behaviors are also frequently a problem here, and I've witnessed several car vs. bike accidents where the cyclist was at fault. Pedestrians & drivers have developed a pretty poor road culture here, too.
- I would love to have a bike path that connects to bike paths in Northampton and Easthampton.
- That's a great idea. library and bikes. Include a couple of tandem bicycles
- There is no way for a cyclist to go downtown or to the mall with any assurance of traffic safety. I would like to see some form of bike route around those areas soon so I can ride around and feel safe.
- Elevation wise, Holyoke can be a challenge. So what?

- Keep up the effort
- we must have more bike paths and more bikes on the road. We are a Green Community that needs to be Greener.
- The city has a few marked bike lanes available, (Hamden St and parts of Northampton St) but not enough of them. Homestead Ave would be one to hope for. Also the city falls behind other local communities with rail trails or other safe off-road cycling trails. With the planned development of a Skate Board park in Polaski park, the canal walk, merry-go-round, and Childrens Museum/ Vollyball Hall, it would be wonderful if the city/state could tie in bicycling through lanes in the area or through development of a rail trail on the un-used 'second track' rail bed that is not used by Guilford/PanAm. That used to be 'double tracked' back in the day. It certainly would be interesting if Federal funds could be tied in to do something like this when the area is improved with to upgrade the AMTRAK route through the city. We would connect to the Easthampton & Northampton Rail Trail system and I think this type of improvement would bring visitors to the city and may assist in the development of coffee shops/deli markets in the downtown area that would be frequented by cyclists, and others. I'm sure it would help with the number of people the merry-go-round sees on weekends as well. Another thought is to improve the top of the dike system for cycling. In Fort Worth, Texas, they have miles of concrete trails on top of their dike system for walking, riding, and other outdoor exercise activities. Some sort of planned cycling event to support the city, or even the St. Patrick's Parade Committee (like the race) would bring in hundreds of cyclists from all over area, and it would be something if it could include a short ride for the kids, say, 5 miles around Ashley reservoir to make it a family event. I'm sure it could be a talking point for all local/regional bike shops and cycling clubs as well. The NORthampton Club has its Bike Fest in September, but that is about all the area has to offer.
- It would be great to have a way to get to Easthampton that wasn't dangerous. Also better bike way to Northampton. It also would be great to not have to use route 5 but there are so many weird dead ends in Holyoke that makes biking hard.
- Any groups out there? Many cities have 1 night per week for closing a public street and having a big public (& safe) ride. Something like that downtown would be great!
- PLACE CONNECTING TRAIL/ROAD PATH FROM MTN TOM TO MALL TO DOWNTOWN TO EASTHAMPTON, ETC
- snow narrowing streets is a real issue in the winter. the new mega-snow-blowers wshould help.
- Roadways are poorly maintained
- we need more bike trails
- Thank you for trying to improve biking in Holyoke
- Holyoke connects Hampshire and Hampden Counties The bus connection at Lincoln & Veterans Park can be very important to tiring cyclists. The platforms at the new Bus Station - are poorly designed for peds/ cyclists
- A rail trail that connects to Easthampton would be great!
- I would LOVE to see some type of bicycle path developed in Holyoke that connected the city to northampton/ easthampton. while I know it would be very difficult, it would be great. Holyoke is also incredibly hilly, which does not encourage me to bike from my home to downtown.

- More trails, support of bicycling for all ages. If the new senior center had senior friendly bikes available, with scheduled bike rides, that would be awesome, so I and my husband would check out that type of bike from the library.
- clubs, teen bicycling activities or afterschool clubs
- I would love to bike more in Holyoke!
- I would love to bike every day with my toddler in the trailer, but I am anxious for her safety.
- I am happy to see lots of folks on bikes The road is for ALL travel per, bike and car. striped ?green? like northampton? lanes would increase safety
- library bikes (below) is a great idea, although our family has bikes already so wouldn't personally use them
- If there was trails like the one in easthampton I would want to bicycle more often. My kids love riding their bikes but I don't feel safe enough to let them ride outside of the driveway
- Nope, but I really appreciate that you sent out the survey. Other safe streets: The neighborhood streets in Ward 4. They're pretty wide and there are lots of stop signs which keep the cars from going too fast.
- I am an avid cyclist and would love to feel like I can do more biking in Holyoke. I spend most of my time biking outside the city.
- Sometimes a driver yells or honks at me, telling me to get out of the road and onto the sidewalk, where I belong! Re-education needed; I don't think it's illegal to ride on sidewalks
- Raise community profile; have bicycle events to spotlight it; have politicians ride bikes; have bicycle unit in St. Pat's parade
- Holyoke streets and buildings make it very pleasant for cycling, except where bike lanes make things tense
- that holyoke is dangerous due to drugs, alcohol
- No only to re-pave roads b/c there are too many potholes and cracks which make it very dangerous
- I would love to see a bicycling track!
- Riding a bike should be fun and free. You shouldn't have to worry about getting hurt
- They should change the seats with something that can soothe our backs and bottoms
- We need more places for bicyclists to ride without fear of getting hurt
- Bicyclists should wear high visibility clothing
- Having the option of renting bikes
- Deberian de crear reglas para los ciclistas, como que usen chaquetas brillantes(que los hagan visibles en las carreteras)., que las bicicletas tengan tablillas, que las bicicletas tengan las luces adecuadas
- NECESITAMOS MAS SEGRUIDAD EN LAS CALLES Y MAS LUGARES EN DONDE PODAMOS CORRER BICICLETAS SIN TENER MIEDO DE SER ATROPELLADO

Attachment B: Open-Ended Open House Comments

General Notes

1. Midnight Bike rides
2. Full moon bike rides
3. Something fun – pancake breakfast, etc.
4. Picture tours!
5. Bike maps with popular routes for people to take
6. Bike rack at mall!!! And every big institution, at Picknelly with some security, multiple bike locking capabilities
7. Publicize those public health and economic facts everywhere
8. Need helmets with ponytail capability
9. Ask folks for their favorite routes, and what the issues are, where they are and how to fix them.
10. East side of the guard rails on Homestead at Community College – guard rails block shoulder, force you into traffic.
11. “Rack ‘n Roll” Program – not enough bikes
12. Bike lockers/locks at Transportation Center
13. Most of Denmark’s school children bike to school after age 11 or 12, so they have traffic parks where 10 + 11 year olds practice driving, biking and walking through a variety of typical traffic situations. Then, when they’re old enough to bike to school, they have to pass a bike test in real traffic. As a result, drivers are already bike friendly, because whenever they pass a biker they can think “That could be me.” The more we educate kids, the sooner we’ll develop a bike-friendly culture.
14. Cue Sheets with a turn-by-turn “trip tick”
15. Bike path on Connecticut River – from Canal area to Easthampton
16. Bike Ride for St. Patrick’s Day. 5,10,20,50 mile routes. Holyoke Mall Start
17. Big issue getting in and out
 - Cabot St. bridge
 - route five (fine except for Oxbow)
 - 141 to Easthampton (narrow and fast)
18. Regular bike rides for MAJOR distances
19. How do you get to the mall? Homestead and Westfield Road (bad)
20. Bicycle education and awareness
21. Institutions: Bike routes to those spots and make priority
 - Mall, health center, hospital, HCC, library, arts walk, canal walk, volleyball hall of fame, kids museum, city hall, Mt. Tom
22. 1-way streets are good

Map – Southwest Holyoke

- Sun Valley Hill Road – This is a nice road to ride on – designate this use. Colored Bike Lanes?
- Westfield Road – quite wide, nice riding

- Ashley Watershed/Brush Hill – great mountain biking, expand access for bikes and peds
- Cherry and Homestead – Dangerous intersection
- Lower Westfield Road – narrow Shoulder – Need reservoir access. Bike lanes under consideration by consultant.
- Consider rail with trail corridor.
- Homestead Ave – tough when busy. Need bike lane.

Map – Downtown Holyoke

1. US 202 – now legal to cross but not comfortable for all. High speed
2. County Bridge – Safe bridge, shoulder, lower speeds
3. Hampden and Dwight – ridiculous bike lane. The road is unnecessarily wide under I-91
4. Cabot Street Bridge – too narrow
5. I-391 – need local access
6. Beech St – no room to ride, have to ride on sidewalk. Too busy.
7. Northampton St – ridiculous bike lane
8. Cherry/Beech/Northampton – Bike lane drops out at lane split for intersection
9. Homestead – busy in AM. Dangerous for those going to the Community College
10. Main street – Great location for bike lane to get into downtown
11. Northampton Street and Whiting Farms Road – Poorly aligned right turn lane – have to swerve to go straight.
12. Need better identification of bike lanes, i.e. colored pavement lines
13. Need a connection to something – Easthampton Rail Trail?
14. Make streets 2-way to improve bicycling.
15. Poor connection to North Holyoke and the Oxbow (narrow shoulder)
16. Re think 1-way streets downtown
17. 1-ways allow bike groups to take over the lane! Good riding.
18. Bike access to Comm. Field!
19. 5,25,50,100 mile bike rides as part of St. Patrick's Day Parade – though call towns who participate in parade
20. Road Diets

Attachment C: Survey

1. In what city/town do you live?

2. What is the nearest intersection to your home? *For example, Dwight St. & High St.*

Travel Behavior

3. Please indicate the destinations below to which you have ever traveled by bicycle:

- | | | |
|--|---|--|
| <input type="checkbox"/> Workplace | <input type="checkbox"/> Riding for fun or exercise | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> City Hall | | <input type="checkbox"/> Mt. Tom |
| <input type="checkbox"/> Picknelly Transportation Center | | <input type="checkbox"/> Ashley Reservoir |
| <input type="checkbox"/> Holyoke High School | | <input type="checkbox"/> Whiting Reservoir |
| <input type="checkbox"/> Dean Technical High School | | <input type="checkbox"/> River Access Center |
| <input type="checkbox"/> Holyoke Community College | | <input type="checkbox"/> Holyoke Mall |
| <input type="checkbox"/> YMCA | | <input type="checkbox"/> Downtown Shopping |
| <input type="checkbox"/> Health Center | | <input type="checkbox"/> Stop & Shop |
| <input type="checkbox"/> Holyoke Medical Center | | <input type="checkbox"/> C-Town |

4. Including, but not limited to, the locations listed above, please list any places to which you would like to travel by bicycle, but currently do not.

Attitudes Toward Bicycling

5. What kind of bicyclist are you?

- | | |
|---|---|
| <input type="checkbox"/> Strong and Fearless | <input type="checkbox"/> Enthused and confident |
| <input type="checkbox"/> Interested but concerned | <input type="checkbox"/> No way, no how |

6. Would you like to bicycle more often?

- | | |
|------------------------------|-----------------------------|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No |
|------------------------------|-----------------------------|

7. What keeps you from bicycling more often?

- | | |
|--|--|
| <input type="checkbox"/> I am physically limited from riding a bicycle | <input type="checkbox"/> I don't feel safe riding a bicycle in traffic |
| <input type="checkbox"/> Road surfaces are poorly maintained | <input type="checkbox"/> Bicycle lanes are too few, and not interconnected |
| <input type="checkbox"/> Not enough bicycle parking | <input type="checkbox"/> It takes me too long to bike where I want to go |
| <input type="checkbox"/> Personal security/crime | <input type="checkbox"/> My destination does not have shower/locker facilities |
| <input type="checkbox"/> No convenient bike shop | <input type="checkbox"/> Destination is too far from my home |

Poor weather

Other _____

8. What would increase your chances of bicycling?

- More striped on-street bike lanes
- More paved shoulders for bicyclists
- More secure bicycle parking
- Improved road maintenance
- Access to bicycle training and safety classes
- Access to a free or low-cost bicycle

- More pavement markings and signage
- More bike lanes and paths separated from car traffic
- Drivers sharing the road with bicyclists
- Increased traffic enforcement
- More mountain biking trails
- Other _____

9. How safe do you think Holyoke is for bicycling?

- Very safe
- Somewhat safe
- Somewhat unsafe

- Very unsafe
- Don't know

10. Is there a local community of bicyclists who provide information about bicycle repair, routes, and/or local cycling activity? If so, please list here. (*For example, friends, a bike shop, etc.*)

11. Which three roads in Holyoke do you consider the most dangerous for bicycling?

A. _____ B. _____ C. _____

12. Which three roads in Holyoke do you consider the safest for bicycling?

A. _____ B. _____ C. _____

13. Please list up to six locations which need new or expanded bicycle parking.

A. _____ B. _____ C. _____
D. _____ E. _____ F. _____

14. Please list any other comments or thoughts you have regarding bicycling in Holyoke.

Optional Information

15. Gender _____

16. Age _____

17. Race/Ethnicity (Check All That Apply)

- White
- Asian
- Other _____

- Black or African American
- Hispanic/Latino

18. Highest Level of Educational Attainment

- Some High School
 High School Diploma

- Bachelors Degree
 Graduate Degree or Higher

Please provide your name and email address or a phone number for a chance to win a prize:

Attachment D: References

Analysis of Bicycling Trends and Policies in Large North American Cities: Lessons for New York. Pucher, John and Ralph Buehler. 2011. Found at <http://grist.files.wordpress.com/2011/04/analysis-bike-final1.pdf>

Bicycling and Walking in the United States: 2012 Benchmarking Report. Alliance for Biking and Walking, 2012. Found at http://www.peoplepoweredmovement.org/site/index.php/site/memberservices/2012_benchmarking_report/

Bicycling Means Business: The Economic Benefits of Bicycle Infrastructure. League of American Bicyclists, 2012. Found at [http://www.advocacyadvance.org/site_images/content/Final_Econ_Update\(small\).pdf](http://www.advocacyadvance.org/site_images/content/Final_Econ_Update(small).pdf)

Business Cycles: Catering to the Bicycling Market. Clifton, Kelly, Sara Morrissey, and Chloe Ritter. Found at http://kellyclifton.com/Research/EconImpactsofBicycling/TRN_280_CliftonMorrissey&Ritter_pp26-32.pdf

Connect. Construct. Create. A Plan for the Revitalization of Holyoke. Holyoke Redevelopment Authority, 2012. Found at <http://www.holyokeredevelopment.com/documents/>

Costs and Benefits of Bicycling Investments in Portland, Oregon. Gotschi, Thomas. Journal of Physical Activity and Health, 2011. Found at <http://journals.humankinetics.com/jpah-supplements-special-issues/jpah-volume-8-supplement-january/costs-and-benefits-of-bicycling-investments-in-portland-oregon>

Do the health benefits of cycling outweigh the risks? de Hartog J, Boogaard H, Nijland H, Hoek G, 2010. Found at <http://www.ncbi.nlm.nih.gov/pubmed/20587380>

GreenDOT Implementation Plan. Massachusetts Department of Transportation, 2012. Found at <http://www.massdot.state.ma.us/GreenDOT/GreenDOTImplementationPlan.aspx>

Guide to the Development of Bicycle Facilities. American Association of State Highway and Transportation Officials, 2012.

The Impact of the Little Miami Scenic Trail on Single Family Residential Property Values. Karadeniz, Duygu, 2008. Found at <http://www.americantrails.org/resources/economics/littlemiamipropvalue.html>

Liveonomics: Urban Liveability and Economic Growth. Economist Intelligence Unit, 2011. Found at <http://www.managementthinking.eiu.com/liveonomics.html>

Manual on Uniform Traffic Control Devices. American Association of State Highway and Transportation Officials, 2009. Found at <http://mutcd.fhwa.dot.gov>.

Massachusetts Community Health Information Profile. Massachusetts Department of Public Health, 2010.

Measuring the Street: New Metrics for 21st Century Streets. New York City Department of Transportation, 2012. Found at <http://www.nyc.gov/html/dot/downloads/pdf/2012-10-measuring-the-street.pdf>

The New Majority: Pedaling Toward Equity. League of American Bicyclists, 2013. Found at http://bikeleague.org/sites/lab.huang.radicaldesigns.org/files/equity_report.pdf

Parklets. San Francisco Department of Public Works. Found at <http://www.sfdpw.org/index.aspx?page=1408>

Pedestrian and Bicycle Infrastructure: A National Study of Employment Impacts. Garrett-Peltier, Heidi, 2011. Found at <http://www.peri.umass.edu/236/hash/64a34bab6a183a2fc06fdc212875a3ad/publication/467/>

Project Development and Design Guide. Massachusetts Department of Transportation, 2006. Found at <http://www.massdot.state.ma.us/highway/DoingBusinessWithUs/ManualsPublicationsForms/ProjectDevelopmentDesignGuide.aspx>

Property Values, Recreation Values, and Urban Greenways. Lindsey, Gregg, JoyceMan, Seth Payton, Kelly Dickson. Journal of Park and Recreation Administration, 2004.

Roadway Delineation Practices Handbook. Federal Highway Administration, 1994. Found at http://safety.fhwa.dot.gov/ped_bike/docs/rdwydelin.pdf

Route Infrastructure and the Risk of Injuries to Bicyclists: A Case-Crossover Study. Teschke, Kay, M. Anne Harris, Conor C. O. Reynolds, Meghan Winters, Shelina Babul, Mary Chipman, Michael D. Cusimano, Jeff R. Brubacher, Garth Hunte, Steven M. Friedman, Melody Monroe, Hui Shen, Lee Vernich, and Peter A. Cripton. American Journal of Public Health, 2012. Found at <http://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.2012.300762>

Trends in Quality-Adjusted Life-Years Lost Contributed by Smoking and Obesity: Does the Burden of Obesity Overweight the Burden of Smoking? Jia, Haomiao and Erica Lubetkin. American Journal of Preventive Medicine, 2010. Found at <http://www.ajpm-online.net/webfiles/images/journals/amepre/AMEPRE2701.pdf>

Two Approaches to Valuing Some of Bicycle Facilities' Presumed Benefits. Krizek, Kevin, 2006. Found at <http://www.brucefreemanrailtrail.org/pdf/krizek2.pdf>

Understanding the impact of trails on residential property values in the presence of spatial dependence. Parent, Oliver and Rainer vom Hofe, 2012. Found at <http://link.springer.com/article/10.1007/s00168-012-0543-z#page-1>

Urban Bikeway Design Guide. National Association of City Transportation Officials. Found at <http://nacto.org/cities-for-cycling/design-guide/>

The Value of Bicycle Transportation: Dollars and Sense. Jeff Olson, 2012. Found at http://www.bikeleague.org/sites/bikeleague.org/files/bikeleague/bikeleague.org/summit12/Presentations/Calculating%20the%20Value%20of%20Bicycle%20Travel/JeffOlson.NBS2012_Benefits_20120319.pdf

Walking and Cycling to Health: A Comparative Analysis of City, State, and International Data. Pucher, John, Ralph Buehler, David Bassett, Andrew Dannenberg. American Journal of Public Health, 2010. Found at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2937005/>

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