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Understanding Utilization and Perception of Public Spaces and Mapping Economic Investments in Downtown Lewiston

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Understanding Utilization and Perception of Public Spaces and Mapping Economic Investment in Downtown Lewiston

Completed in Conjunction with the City of Lewiston Economic and
Community Development Department

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Executive Summary

This project, and Lewiston's broader plan to transform the Tree Streets Neighborhood and downtown corridor is situated in a broader environmental justice movement and green gentrification paradigm, where the creation of renewed or revitalized green spaces and urban centers can lead to the displacement of longtime residents. Public spaces play a critical role in the health of a community, and nodes of community culture grow up around them. The City of Lewiston is looking to build safer, healthier environments and allow all residents living here to thrive. However, the city must strike a delicate balance that provides these benefits, maintains the character of the community, and while maintaining ensures that residents can afford to stay and will not be pushed out by rising costs due to gentrification.

In conjunction with the City of Lewiston Economic and Community Development Department, our project aimed to understand the utilization and perception of three public spaces in Lewiston through observation and interviews, create a replicable methodology so that the study of these spaces and others could be reproduced throughout the future, and map economic investment in downtown Lewiston using ArcGIS Storymaps. Our study centered around three spaces: The Lisbon Street Corridor spanning between Main Street and Ash Street, Simard-Payne Memorial Park, and Marcotte Park. For the Lisbon Street Corridor, we observed increasing numbers of pedestrians and business interaction as the day got later, centering around the afternoon after working hours. Further, we observed higher proportions of pedestrians interacting with businesses on Lisbon Street on the weekends before dinner time, with interaction predominantly occurring with restaurants and dispensaries. Usage for Simard-Payne centered predominantly around the running path, with elevated levels of usage occurring in the afternoon hours. Simard-Payne is also frequented as a fishing spot, with individuals taking advantage of the waterfront access to the Androscoggin River. Marcotte Park, while seeing some pass-through usage, was used in the most part for its accessible playground. We observed high rates of usage by children on the weekends, with adult or teen chaperones spending time on the provided benches and tables while the children played on the park infrastructure.

These observations and observational methodology, data records, and analysis methodology have all been recorded and organized in this report so that the City of Lewiston Economic and Community Development Department is able to easily replicate this work. Listed in the appendices are our park characteristic sheets, sampling criteria tables, interview questions, and all else needed to replicate our study. We hope to have aided the city of Lewiston in its ability to understand its past investments, and how future investments might change utilization and perception of public spaces within the city.

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Project Background

Parks and other green spaces serve many purposes within cities. They perform a variety of ecosystem services, including creating cleaner air by filtering air pollution, mitigating the effects of urban heat, infiltrating stormwater, and providing a buffer for noise pollution. (Escobedo et al. 2011; Wolch et al. 2014) They also play a critical role in the health of urban communities and individual residents. Urban green spaces are linked to increased social interaction and community cohesion. There are physical health benefits that have been observed, including lower all-cause mortality risk and risks for a number of chronic illnesses. (Wolch et al. 2014) These spaces also provide areas to exercise and recreate and can also be spaces for growing food. Mental health benefits associated with urban green space include stress reduction, decreased levels of fatigue, and other benefits that come with increased community and physical health. (Groenewegen et al. 2006; Wolch et al. 2014) In the US, wealthy white communities often have disproportionate access to urban green spaces and these benefits. (Heynen et al. 2006) Low-income, Black, Indigenous, and other communities of color, although sometimes living in closer proximity to parks by mileage, have access to fewer parks, less acreage per park, and the quality of park amenities, maintenance, and safety is lower. (Rigolon 2016) This reality is the direct product of a history of racialized and classed land development and traditional notions of leisure and recreation, which disproportionately favor people who are white and wealthy.

Disproportionate access to urban green space is a well-documented environmental justice issue, and this understanding, coupled with the growing realization of the benefits urban green spaces can provide, has led to a host of attempts to re-energize and create green spaces in traditionally underserved communities. However, these projects play into an urban green space paradox, where a vibrant downtown, complete with urban green spaces, encourages private economic activity. This greening of a community can lead to higher real estate prices and taxes, pricing the longtime community members out of the neighborhood and facilitating processes of gentrification. To combat this approach strategies of "just green enough" have been proposed to limit negative externalities. These strategies are aimed at remediating or creating green spaces in line with the needs of existing residents, while explicitly avoiding terminology or amenities that are linked to more upscale "sustainable" neighborhoods. (Curran and Hamilton 2012) In this strategy, when urban planners unite with community members to create spaces grounded in community needs, concerns, and desires, rather than urban design or ecological restoration ideals, gentrification can be avoided while benefits of green spaces can still be accessed by traditionally underserved communities. There are criticisms of this approach – that it is not equitable or equal (Haase et. al 2017), many of the claims are untested or unproven (Rigolon and Németh 2020), and that it does not take into account the role of parks within a broader urban system (Ali, Haase, and Heiland 2020; Haase et. al 2017). When considering this system, there are many additional possibilities municipalities can take to combat gentrification while at the same time still investing in the creation of equitable parks grounded in community needs. These strategies include expanding public housing, and the creation of other cost-conscious housing strategies like implementing rent control or the creation of Community Land Trusts. It is critical to invest in such strategies, along with public green spaces to allow local communities to remain in their neighborhoods, enjoying the benefits of these investments.

Lewiston has recently seen a revitalization to its downtown core, an area that has experienced years of decline from the height of the mill era in the 19th and 20th centuries. Once mill jobs left the area for

overseas locations, downtown Lewiston experienced a decay similar to many other cities and towns in the New England and Midwest. One factor of Lewiston's economic revitalization has been the immigration of many New Mainers from areas of East Africa to the Downtown Tree Streets Neighborhood (Voyer, 2017). These immigrants have brought a unique culture to the area and are opening businesses in the Tree Street and Lisbon Street areas. Lewiston has begun to revitalize its downtown core with investments on Lisbon Street to make the area safer for pedestrians which has in turn seen a huge growth in businesses and restaurants along the road. Lewiston also has utilized the mill infrastructure to create a hub for office and commercial space within restored mill buildings (Dineen, 2019). This has attracted many companies to establish offices in the mill spaces that are cheaper than locations in Portland. At the same time, the city has to be careful about the sorts of investments they make to avoid gentrification. While overall just under half of Lewiston's housing stock is occupied by renters (US Census Bureau 2019), in the downtown Tree Streets Neighborhood 96 percent of households are renters (Healthy Neighborhoods 2019, iv). Cognizant of this dynamic, the City has made strides to increase access to affordable housing and ensure longtime residents will not be pushed out by new development. To this end, the City of Lewiston received a Choice Neighborhood Planning Grants in FY2017 and was just awarded a $30 million Choice Neighborhood Implementation Grant for investments in housing security, education, childcare, and public spaces in the Tree Streets area in 2021.

It is vital for the city of Lewiston to be able to analyze the investments they are making to measure improvements and understand where to direct future investments. The city has already made many investments in public spaces, including an amphitheater in Simard-Payne Park (TCT Editorial Staff 2016) and a universally accessible playground called Jude's Place in Marcotte Park (Libby 2018). Other investments, such as adding a Lisbon Street from Maine to Ash as a designated part of a foot officer's regular rounds, have been made to try to improve perceptions of safety. Having a method to analyze the perception and utilization of public spaces will allow the city to understand how their investments relate to improved quality of life within Lewiston and attract new visitors and residents. Additionally, data on the success of investments can be used to secure more grants in the future to continue improving the urban environment of Lewiston.

Research Aims, Objectives, and Deliverables

Aim: Summarize utilization rates and user experience of key Lewiston parks and corridors to help the City of Lewiston Economic & Community Development Department make strategic investments in these spaces for the purpose of facilitating healthier and economically vibrant communities in downtown Lewiston neighborhoods.

Objective 1: Quantify usage and summarize user experience of three key Lewiston corridors or Parks
Objective 2: Ensure methods to quantify and summarize this data that can be replicated by city staff in the future.
Objective 3: Showcase the various investments made by the city of Lewiston in public infrastructure in the Tree Streets Neighborhoods, as well as various proposals for future investments.

<u>Deliverable 1:</u> Provide a summary measuring utilization and perception of Lisbon Street from Main Street to Ash Street, Simard-Payne Park, and Marcotte Park.

<u>Deliverable 2:</u> Create an easily replicable methodology to measure utilization and perception of public spaces.

<u>Deliverable 3:</u> Create a Storymap that will show the spatial distribution of investments that have been made or are proposed in Lewiston's Tree Streets Neighborhood.

Methodological Approach

Our methodological approach is split into two sections, Methodology for Deliverables 1 and 2 and Methodology for Deliverable 3. The former will pertain to fulfilling Objectives 1 and 2, while the latter will concern Objective 3

Methodology for Deliverables 1 and 2

<u>1. Research Studies on Utilization and Perception of Public Spaces</u>
The creation of project criteria and execution of this project relied on past studies analyzing the usage of parks and public spaces. In this research phase we looked to ways that municipalities or researchers have sought to measure usage and perception in the past. We looked for usage of surveys, observations, or a combination of methods, and what criteria they evaluated for or questions they asked. We also examined the temporal scales of the studies. This research informed best practices in our work.

<u>2. Create Criteria and Questions to Measure Utilization and Perception & Set Standards and Criteria for Analysis</u>
In order to successfully analyze the perception and usage of public spaces, we created separate sets of criteria for each space. Using what has been learned in the research from Step 1, we created criteria then tested them through a series of trial field runs and in consultation with our community partner. We have set standard practices for each new public space, drawing inspiration from Cohen et al. and Cohen et al.

The first step in this practice is recording the characteristics of a given public space. This will give the Community and Economic Development Department a better sense of a given space, including size, amenities, and the makeup of the surrounding area, which allows for the establishment of a baseline for future measurement. A table of criteria for this initial step can be found in *Appendix 1*. This process involves going to visit the space and record relevant characteristics, but may also include online research or use of a program such as GIS to determine size or population data. We have created a framework to help determine relevant characteristics of each space, which can be found in *Appendix 2*. Understanding a space will help to clarify how community members might use that space, and what sort of usage we can expect to see and will need to account for and record.

We also set standard practices for each sampling session, drawing inspiration from Cohen et al. and Cohen et al. This includes filling out a set of daily characteristics (see *Appendix 3* for list), which may be helpful for explaining any irregularities in the data. For example, bad weather may keep people away

from a playground, or the presence of police officers may dissuade use of a public space in a community that has a poor relationship with law enforcement.

Based on the expected uses of the space, as determined by the framework for evaluating a space and any specific uses the city would like to measure, observation criteria will be created for each space. In this project, we decided on criteria based on our own trial observations and feedback given by Heidi McCarthy, and then stratified by age. At Heidi's request, we decided that for Lisbon Street, observations would focus on total pedestrian count and interactions with businesses. Based on our own practice observations, after conversation with Heidi, we decided to create a separate category for interactions with the courthouse. For Simard-Payne Park, we choose to measure usage of the walking/running path, the large field, the amphitheater, and use of the park for fishing. We decided observations at Marcotte Park would center around usage of the inclusive playground, and we would also record people sitting or relaxing, which we assumed would mainly be parents. For every space we measured, we separated each criterion by children, teenagers, adults, and seniors, which was determined based on the observer's judgement, although during our practice sampling sessions we discussed as a group who would and would not count for each category.

Finally, we decided on a set of questions to ask interview subjects. These were the same for each space, designed to be general and open ended, and not take up too much of an interviewee's time. Questions concern how close the interviewee lives to the space, their perception of the space, and any changes they would like to see. See *Appendix 4* for a full list of interview questions.

3. Conduct In-Person Research Based on Finalized Criteria
After we finalized the observation criteria for each, we began to conduct in person study of all three spaces. Sampling was conducted from Tuesday, May 4, 2021 to Wednesday, May 12, 2021. Every observation session lasted 45 minutes. Both parks were sampled four times in total, at 7:00-7:45am and 4:00-4:45pm. On the weekends, parks were supposed to be sampled at 10:00-10:45am and 4:00-4:45pm, although Simard-Payne was erroneously sampled at 11:00-11:45am. These sampling times were predetermined to catch people before work and after the school day on weekdays, and mid-morning and late afternoon on weekends, when we hoped to see people using parks recreationally. Lisbon Street was sampled five times in total. Sampling was conducted at 7:00-7:45am, 11:00-11:45am, and 6:00-6:45pm on weekdays and from 11:00-11:45am and 5:00-5:45pm. These sampling times were determined in order to catch people before work, on lunch break or using the courthouse, and in the evenings after work during the week. Weekend times were selected in order to catch the brunch or lunch group and people running errands midday and those going out to dinner or hanging out in the evening.

Each place was sampled from a consistent location. Sampling locations for each have also been marked on a map below with a red X (see *Appendix 5*). For Simard-Payne, this was sitting next to the pole at the top of the amphitheater, looking out over the running path and the river, but able to see the large field off to the observer's right. Marcotte was sampled from the large stump at the top of the hill overlooking the playground and triangle of grass. Lisbon street was sampled with two observers, who each watched the side of the street they were sitting on and recorded every interaction on that side. One observer stood near the entrance of the Courthouse or sat on the bench off to the side of the Courthouse ramp and the other sat near the free masks mailbox at the front of Dufrene Plaza. This was done in an effort to minimize double

counting and maximize observers' ability to count people who may have parked, gotten out of their car and walked right into a business. That said, total pedestrian count may be a slight overestimate, as people who crossed the street may have been double counted.

To ensure consistency, a sampling packet was created for each space. Each time a space was sampled, the observer printed and recorded on a new sampling packet for the space. Usage counts were always recorded with tally marks, while other information was filled out with words. This ensured criteria were consistent each time. Sampling packets have been attached in *Appendices 6, 7, and 8* for Lisbon Street, Simard-Payne Park, and Marcotte Park respectively.

We had hoped to conduct interviews to measure public perception of the three spaces. However, at the time we were sampling, Androscoggin County and Lewiston were experiencing a serious spike in COVID-19 cases, and because outdoor masking was not common, we made a unilateral decision that we were not going to conduct interviews due to safety concerns. However, the framework to conduct interviews is in place, and sampling packets for each space contain a section to record interviews. Going forward, 15 minutes of time should be budgeted for interviews after the 45-minute observation period so that a sampling session will take an hour in total.

After each sampling period, data was transferred from the sampling sheet into a shared spreadsheet for easy aggregation, graph creation, calculation, and analysis. This spreadsheet was stored in the cloud so as to maximize collaboration while minimizing the risk of data loss due to hardware corruption, but will be shared as an excel file along with this report.

4. Analyze Collected Data

After observing and sampling each space, it is important to effectively represent the gathered data so that it might be visualized and understood. To do this, we first created a spreadsheet in which we organized our data. Separate tabs were created for the daily characteristics and the observational data of each space. Within these tabs, information was organized based on sampling date. Criteria from the sampling packets were listed along the top of each sheet (both for daily characteristics and observational data) so that counts could be inputted easily and efficiently. After these tabs were created data was inputted after each sampling session, so as to minimize risk to hard-copy data loss.

Next, graphs and visualizations were created to represent the data. We first created bar graphs that showed overall usage rates regardless of amenity specification (business interaction or running path use for example). This initial overview was extremely helpful to understand general park usage before looking into specific amenity use. After these initial graphs were created, others were visualized to represent the different aspects of each space. For example, for Simard-Payne Memorial Park, running path use was visualized as that is where we tended to observe the most use. By visualizing the data, comparisons can be drawn for usage patterns surrounding temporal or physical differences (such as weekday vs weekend or a day that had particularly bad weather). These new graphs, in tandem with the initial overview graphs, were how we performed the majority of our analyses. We tried to note significant spikes in usage, or interesting patterns of usage to adequately represent how individuals interacted with each space.

Methodology for Deliverable 3

1. Gathering Data

Data was gathered from the Tree Streets Transformation Plan, as well as various other projects and plans provided to us by Heidi and the Lewiston Economic and Community Development Department. This data was compiled into a document where descriptions, addresses and photos were added for each item. The items were categorized into categories including housing, education, health, community food hubs, Healthy Homeworks Mini-Grant Projects, Action Activity initiatives, public WiFi nodes, and public art. A list can be found in *Appendix 9*. This document was reviewed by Heidi McCarthy and Misty Parker for accuracy.

2. Initiating ArcGIS Storymaps

To start working with ArcGIS we set up account information through Bates College and created the basemap, title, and cover image for the Storymap.

3. Creation of Storymap

The data within the document was transitioned into the Storymap using the addresses recorded. Each item included a title, an image, and a description with an address. Each item was highlighted with a pin on the map that is color coded to the category that the item belongs to. These categories are present in the legend that consolidates all the items included in the map. The map was revised with further input from Heidi McCarthy, Francis Eanes, and other classmates.

Results

Although our sampling regimen operated within a highly compressed timeframe, our gathered observational data is telling.

First are trends regarding pedestrian counts and usage of the Lisbon Street corridor spanning Ash Street to Main Street. Overall, we saw similar numbers for Lisbon Street pedestrian counts, regardless of the weekend vs weekday divide (Figure 1). For the same sampling time slot (11:00am - 11:45am) on a weekday and a weekend, we only observed a difference of 4 pedestrians counted (count of 101 vs 97 individuals respectively). Somewhat similarly, for the count of pedestrians interacting with businesses in the corridor, we observed minimal variation during the mid-day hours regardless of the weekend vs weekday divide (Figure 2). Where we did observe a significant change was during the pre-dinner hours on weekends, where we saw business interaction rise by roughly 30%. Further, within this time slot, the ratio of pedestrians to business interactions rose from ⅓ to ½ with significantly more pedestrians interacting with businesses on Lisbon Street. Much of these interactions centered around restaurants and dispensaries (Figure 3). We suspect that this increased ratio was a product of families having more free time to pick up food or to spend eating with their loved ones elsewhere. We also observed high rates of activity surrounding the courthouse located on Lisbon St with adults being the ones primarily interacting with it, and have included the courthouse in our observation criteria.

Regarding Simard Payne, we saw much higher rates of usage in the afternoon and evening hours regardless of the weekend vs weekday divide. The most usage occurred in the late afternoon (4pm-4:45pm), with interaction centering around the running path that circles the park (Figure 4). High rates of adults running were observed, as well as adults walking with children for exercise or to spend time outside. Of those seen using the park in the later afternoon hours, over 85% were using the running path (Figure 5). Perhaps after work and school let out both adults and children had more time to use the park, or to go on a run. Further, we consistently observed individuals using the area by the Androscoggin River to fish during daylight hours. Importantly, the large field and amphitheater at Simard Payne normally act as event venues. We were unable to observe any such events, however, due to the Sars-Cov-2 Pandemic occurring during our sampling period. However, we believe that this is an important aspect of how Simard Payne is used during a normal year and should be noted.

Marcotte Park usage centered around the accessible playground located on its premises. Overall, we saw the majority of park interaction occur over the weekend, presumably when parents and children had more free time to spend outdoors or with each other (Figure 6). On the weekends, we observed elevated rates of usage surrounding the playground most likely due to the lack of school or work. We saw many kids interacting with the various amenities and aspects, while parents or teen chaperones lounged or sat at the various picnic tables or benches in the park (Figure 7). Occasionally people would pass through the park on their runs or on skateboards, but use for the most part revolved around children using the playground.

The third deliverable for our project involved the development of an ArcGIS Storymap to categorize and visualize the various projects, events, and attractions in the Tree Streets Transformation Plan. The Storymap includes color coded sections of housing developments, early education centers, community food hubs, health centers, Heath Homeworks Mini Grant Projects, Action Activity Initiatives, and public art. Designed to be interactive, the Storymap includes pictures with descriptions and addresses to allow anyone to be able to use the map to understand these spaces and learn more about the projects in the neighborhood. The link to the Storymap will be shared along with this report.

Recommendations for Next Steps

This project has begun to build an understanding of park utilization for three public spaces in Lewiston, but provides far from a complete picture of the reality of how people use and perceive public spaces throughout the downtown area. However, our work does provide a framework in which this information can be gathered and analyzed. To begin to build this more complete picture going forward, we have outlined some recommendations below to help the Economic and Community Development Department better understand how to distribute their resources. These recommendations are divided based on level of priority, and we also include some scenarios to help clarify the quantity of work that can be completed with given inputs of resources. In order to make the work of measuring usage and perception feasible, especially if the city has a need to measure many spaces at a given time or to study a given space in great detail, we recommend reaching out to partner with the Harward Center at Bates College. This is a project that could easily be dispersed and undertaken by student volunteers coordinating to give their data to one central person.

<u>Recommendations for Where to Prioritize Sampling Public Spaces to Understand Utilization and Perception</u>

Given that observations and interviews can take up a significant amount of time in order to draw a complete picture of use and perception of a given space, we are not recommending that the Economic and Community Development Department utilize our framework to complete regular sampling of all park spaces in Lewiston. Instead, we recommend first prioritizing public spaces where there are proposed projects or projects have been completed and the Department would like to measure impact. Second, we recommend using the Department's connections to community organizations who work with residents on a daily basis to identify spaces for possible renovation or study from community input.

<u>Possible Labor and Time Distribution Scenarios and Expected Outputs for Sampling Public Spaces to Understand Utilization and Perception</u>

Least Thorough Understanding
For spaces that only require one observer, such as Marcotte or Simard Payne Parks, for the least thorough scenario, follow the same steps and sampling regime we did for this project. As we know, it is able to be completed in a very compressed time span and can require a relatively low number of hours of employee time. The least thorough scenario requires sampling each space two to three times during the week and twice on the weekend, depending on the characteristics of the space and when usage is expected to be highest. For a space like Marcotte, twice a week in the early morning and in the late afternoon was sufficient because the main infrastructure of the park is a playground, and we did not expect significant midday weekday usage when students are at school. We chose to sample Lisbon street three times, including once at noon, because of the businesses and courthouse use that served people during the workday. For the least thorough scenario, sampling can be done once a year, or in a situation where you need some immediate data about a space. Because each sampling period lasts an hour (45 min observations, 15 min of interviews), in total, 4 to 5 employee work hours are needed to observe in this way. For spaces that need multiple observers, all of the timing remains the same, but the total number of employee hours that would be needed would be 4 or 5 multiplied by the required number of observers. The upsides of this strategy is that it is extremely efficient and very flexible, but the downsides are that it is tough to gather a full picture of the space as it only shows you a snapshot of usage and perception in a specific time.

Somewhat Thorough Understanding
The somewhat thorough scenario expands on the least thorough scenario to bolster data in a short time period and help control for outliers, but does not address any long term temporal component of space utilization or perception. For spaces that only need one observer, it will be necessary to sample in the morning, midday, and evening on weekdays and the midmorning and midafternoon on weekends. At least four samples will have to be collected for each time period over the course of at least one week and two weekends, to help account for outliers and abnormalities. This means at least 20 sampling sessions per space, which will require 20 employee hours over a couple of weeks.

Most Thorough Understanding

The most thorough scenario uses the same sampling regime as the somewhat thorough scenario, but adds an additional temporal component. The sampling regime outlined above will need to be repeated multiple times throughout the year, and at least one per season. In total samples would need to be taken at least 80 times over the course of the year, meaning roughly 80 hours of an employee's time are needed just to sample the space. For spaces that need multiple observers, all of the timing remains the same, but the total number of employee hours that would be needed would be 80 multiplied by the required number of observers. This strategy does require a significant input of employee time and is only possible for projects with long planning times. It will also provide a very complete picture of the space over the course of the whole year, and you can be very confident in the quality of the data and that any irregularities will be easy to flag.
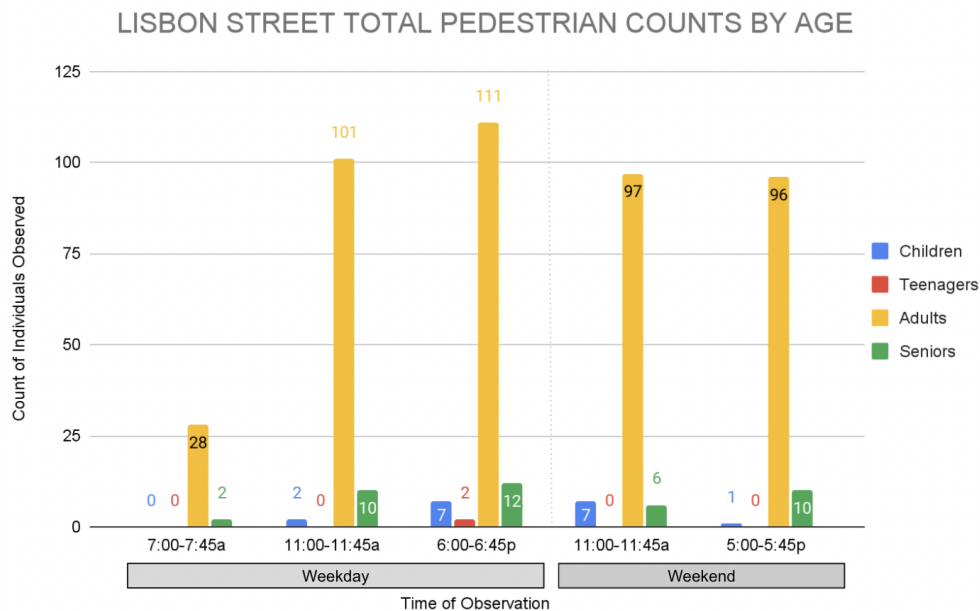
Figures

Figure 1: Using data collected over 5 separate sampling instances, this figure shows the total pedestrian counts for the Lisbon Street corridor spanning between Ash Street and Main Street. Some important aspects of this figure are the seeming lack of difference during the 11-11:45 time slots even though one of them was on a weekend. Further, the evenings were consistently busier than the mornings in terms of pedestrians.
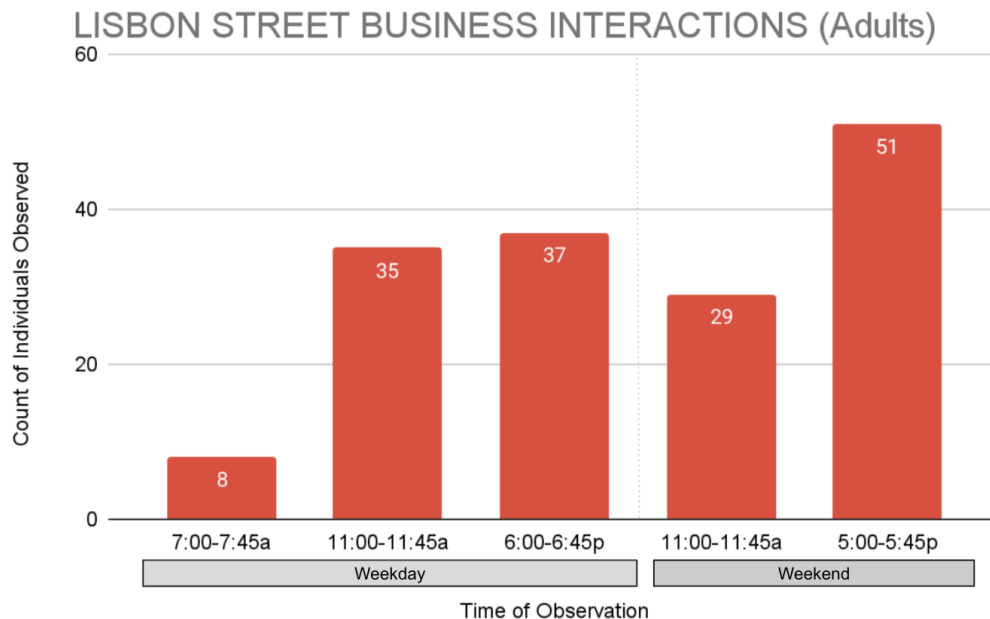
Figure 2: Using data collected over 5 separate sampling instances, this figure shows the pedestrian business interaction for the Lisbon Street corridor spanning between Ash Street and Main Street. Interestingly, weekend days did not see a significant change for business interaction during the middle of the day (11-11:45 slot). However, the later weekend slots saw much higher rates of business interaction with many of the restaurants and businesses in the corridor being interacted with.

LISBON STREET PEDESTRIAN AND BUSINESS INTERACTION COUNTS (Adults)
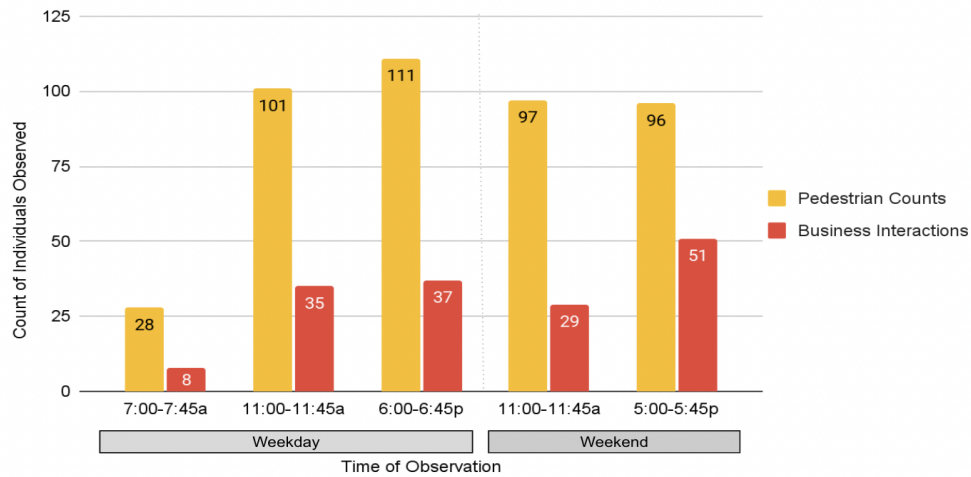
Figure 3: Using data collected over 5 separate sampling instances, this figure shows the pedestrian count cross referenced with business interaction for the Lisbon Street corridor spanning between Ash Street and Main Street. This figure is particularly useful to understand what portion of Lisbon Street pedestrians are interacting with businesses or passing through. For weekdays and earlier weekend times, it seems that roughly ⅓ of pedestrians interact with businesses. This number increases to ½ however, for the pre-dinner time slot on weekends. Presumably, folks have more time to spend money, eat with their family or loved ones, and pick up takeout from one of the many businesses on the street.

SIMARD-PAYNE PARK OVERALL USAGE

Figure 4: Using data collected over 4 separate sampling instances, this figure shows general use observed at Simard-Payne Memorial Park.
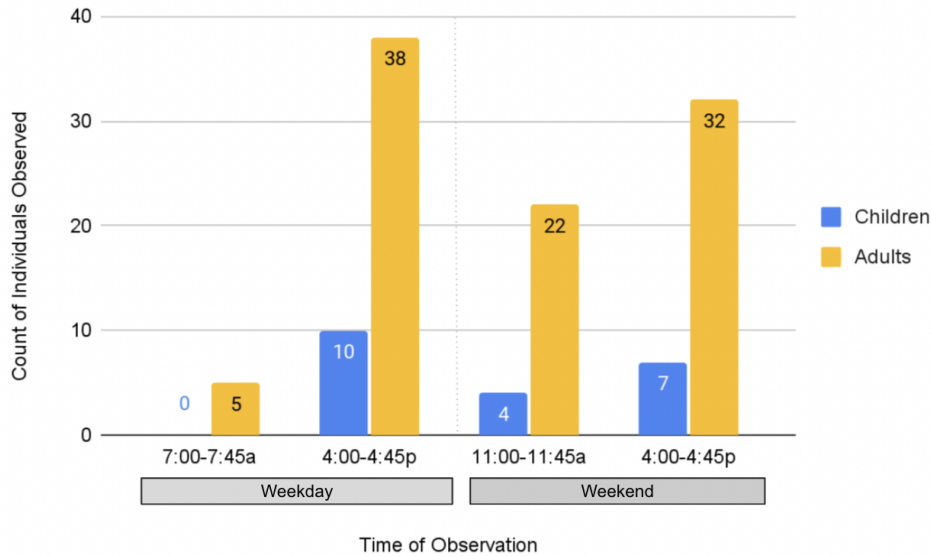
Figure 5: Using data collected over 4 separate sampling instances, this figure shows running path use for Simard-Payne Memorial Park. The predominant amenity interaction for Simard-Payne was through the running path, with a mix of adult runners and children + adults walking together. Some morning use occurred, but it was minimal compared to usage later in the day. Running loop usage saw an increase in the later hours of the day as folks got off work or after school was let out.

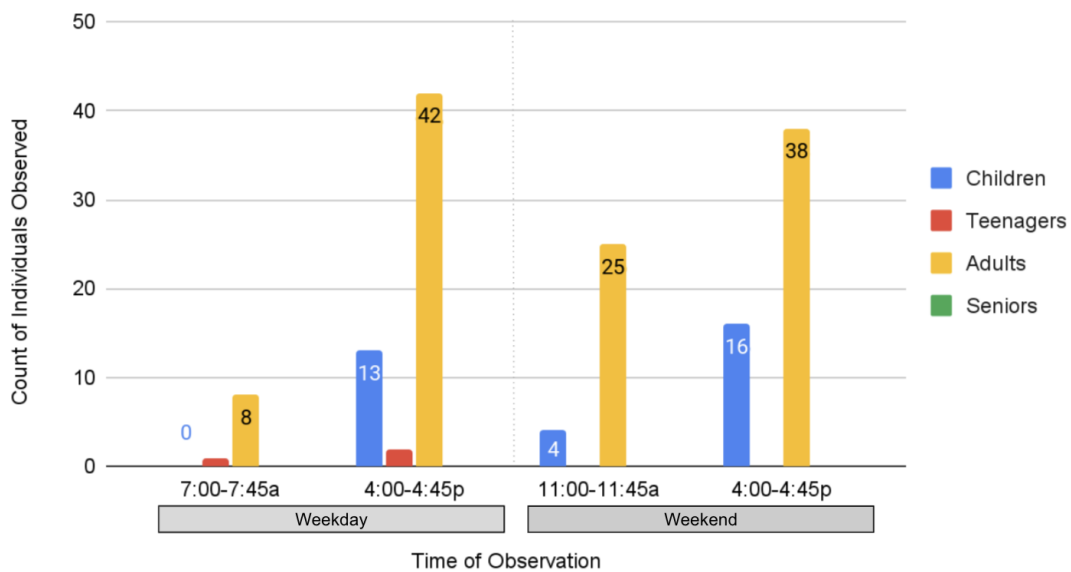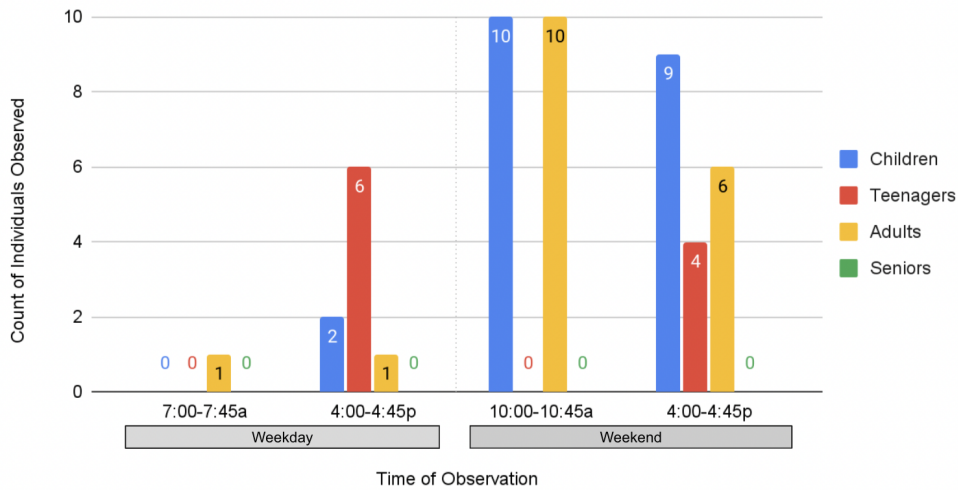*Figure 6: Using data collected over 4 separate sampling instances, this figure shows general use observed at Marcotte Park.*
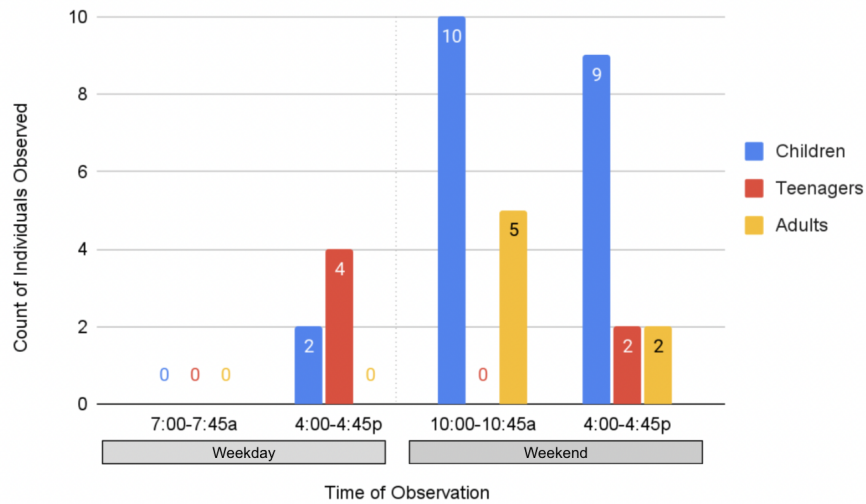
Figure 7: Using data collected over 4 separate sampling instances, this figure shows amenity use for Marcotte Park. This graph shows amenity usage by children cross referenced with adults sitting/relaxing on park infrastructure. As expected, use centered around the playground and play-infrastructure in the park. There was little to no use in the weekday mornings, presumably because parents and children are preparing for work and school respectively. The majority of use was through children on the playground, while chaperone adults sat on the provided benches and picnic tables to keep an eye on the kids. Use overall increased on the weekend, with the morning slot seeing more usage.

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Appendix 1: Public Space Characteristics

Park or Public Space Name:	
Size (square miles or acres)	
Population Within a 1 mile Radius	
Percent of Households Within a 1 mile Radius In Poverty	
Park Amenities (count and type)	

Appendix 2: Framework for Evaluating a Space

To understand the makeup of a space and the ways it might be used, we have established a framework that separates features on a space into built and natural characteristics. Built characteristics are categorized by the amenities made through investments that contribute to the physical infrastructure of space. Natural characteristics are aspects of the park that, although they may have been placed there through investment and may influence parts of the physical infrastructure, are not explicitly a part of the infrastructure. Below is a non-exhaustive list of the physical and natural characteristics we thought about when considering how a space could be used and who would be using the space. When evaluating a space for the first time it is important to think about how these characteristics could affect usage. It is also critical to evaluate the condition of these characteristics to see how useful they might actually be.

Built Characteristics
- Paths, walkways, and crosswalks
- Benches
- Tables
- Electric lighting
- Trash cans
- Recycling bins
- Post boxes
- Ballot drop boxes
- Playgrounds
- Courts - i.e. tennis, basketball, etc.
- Open field space
- Architectural features
- Buildings
- Public bathrooms or restroom spaces available for public use
- Business or economic ventures
- Roads
- Parking
- Public art

Natural Characteristics
- Grass
- Water
- Trees, shrubs, flowers, and other plants
- Rocks
- Sun and moon light
- Shaded space
- Elevation changes
- Fish or birds
- Other animals

Appendix 3: Daily Characteristics

Place Name	
Time and Date of Observation	
Litter Level (minimal, moderate, excessive)	
Homeless People Observed[1] (count)	
Food Vendors Observed (count)	
Dogs off Leash Observed (count)	
Daily Weather (brief description)	
Mean Temperature (F) During Observation	
Police Presence (count)	

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[1] Homeless individuals are determined by whether an average person may perceive that individual as homeless or engaged in behavior associated with being unhoused, including public sleeping, someone who has all their stuff with them, panhandling, etc.

Appendix 4: Interview Questions

Gender (infer)	
Ethnicity (infer)	
Age (infer)	
How far from this park do you live? Or Do you live nearby?	
Would you mind telling me a little bit about Why you like this park?	
Are there any changes you would make to this park involving safety, amenities, or facilities?	
*If accompanied by a minor: How would you summarize your child's experiences with this park?	

Appendix 5: Sampling Location Maps

All sampling locations marked by a red X.

Lisbon Street:

Simard-Payne Park:
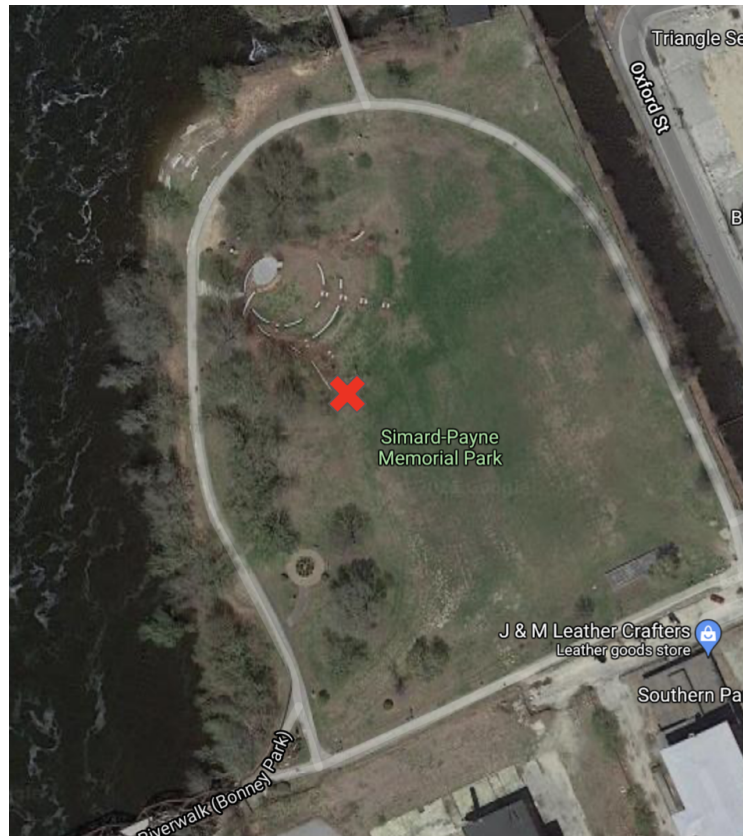
Marcotte Park:

Appendix 6: Lisbon Street Sampling Packet

Overall: Samples will be taken by two observers sitting on either side of the street around halfway (close to the Courthouse and Dufresne Plaza). Observers will be responsible for watching the sidewalks on the side of the street that they are sitting on. This will hopefully minimize double counting as much as possible, but there will be some individuals who will be counted twice. Observations will last for 45 minutes, and will be followed by 15 minutes of informal interviews.

Goals: Community Partner has specified that the primary goal is to get an overall pedestrian count, and the secondary goal is perceptions of safety.

<div align="center">Daily Characteristics</div>

Place Name	
Time and Date of Observation	
Litter Level (minimal, moderate, excessive)	
Homeless People Observed (count)	
Food Vendors Observed (count)	
Dogs off Leash Observed (count)	
Daily Weather	
Mean Temperature (F) During Observation	
Police Presence (count)	

Activities Observation Count

Activity Type	Children	Teens	Adults	Seniors
Total Pedestrian Count				
Interacting with a Business				
Interacting with the Courthouse				
Hanging out, Spending time in public area				
Cyclist				

Hi, My name [___] and I am working with the City of Lewiston Economic and Community Development Department. Would you be able to answer a few questions for me? It shouldn't take more than two minutes.

Questions:
1. Age (infer)
2. Gender (infer)
3. Race/ethnicity (infer)
4. Do you live close to Lisbon Street?
5. Would you mind telling me a little bit about how you interact with this Part of Lisbon Street?
6. What are your thoughts about the Safety of Lisbon Street?
7. *If accompanied by a minor: How would you summarize your child's experiences with this park?

Interviewee 1:
Age: Gender: Race:

1. Do you live close to Lisbon Street?

2. Would you mind telling me a little bit about how you interact with this part of Lisbon Street?

3. What are your thoughts about the Safety of Lisbon Street?

Interviewee 2:
Age: Gender: Race:

1. Do you live close to Lisbon Street?

2. Would you mind telling me a little bit about how you interact with this part of Lisbon Street?

3. What are your thoughts about the Safety of Lisbon Street?

Interviewee 3:

Age: Gender: Race:

   1.   Do you live close to Lisbon Street?

   2.   Would you mind telling me a little bit about how you interact with this part of Lisbon Street?

   3.   What are your thoughts about the Safety of Lisbon Street?

Interviewee 4:

Age: Gender: Race:

   1.   Do you live close to Lisbon Street?

   2.   Would you mind telling me a little bit about how you interact with this part of Lisbon Street?

   3.   What are your thoughts about the Safety of Lisbon Street?

Interviewee 5:

Age: Gender: Race:

   1.   Do you live close to Lisbon Street?

   2.   Would you mind telling me a little bit about how you interact with this part of Lisbon Street?

   3.   What are your thoughts about the Safety of Lisbon Street?

Appendix 7: Simard-Payne Park Sampling Packet

Overall: Samples will be taken by one observer sitting next to the pole and the top of the amphitheater facing towards the river. Observer should be able to see the field and any activity on it off to their right, and the walking path in front of them. Observer should not take note of people using the path near the bridge just to get to Lewiston or Auburn, but not engage with the park. Observer should be careful not to double count people going around multiple times on the path. Observations will last for 45 minutes, and will be followed by 15 minutes of informal interviews.

Goals: Understand what people are doing in the park, and how they interact with the space, especially with park amenities.

Daily Characteristics

Place Name	
Time and Date of Observation	
Litter Level (minimal, moderate, excessive)	
Homeless People Observed (count)	
Food Vendors Observed (count)	
Dogs off Leash Observed (count)	
Daily Weather	
Mean Temperature (F) During Observation	
Police Presence (count)	

Activities Observation Count

Activity Type	Children	Teens	Adults	Seniors
Running				
Walking				
Playing Sports - Grass or Other				
Using Park Amenities (amphitheater)				
Sitting or Relaxing				
Picnic				
Outdoor Sporting Activity (Birding, Fishing, etc)				
Other (Wedding, Event, etc.) -- Specify				

Hi, My name [___] and I am working with the City of Lewiston Economic and Community Development Department. Would you be able to answer a few questions for me? It shouldn't take more than two minutes.

Questions:
1. Age (infer)
2. Gender (infer)
3. Race/ethnicity (infer)
4. Do you live close to Simard Payne?
5. Would you mind telling me a little bit about how you interact with Simard Payne?
6. Are there any changes you would make to the park involving safety, amenities, or facilities?
7. *If accompanied by a minor: How would you summarize your child's experiences with this park?

Interviewee 1:

Age: Gender: Race:

1. Do you live close to Simard Payne?

2. Would you mind telling me a little bit about how you interact with Simard Payne?

3. Are there any changes you would make to the park involving safety, amenities, or facilities?

Interviewee 2:

Age: Gender: Race:

1. Do you live close to Simard Payne?

2. Would you mind telling me a little bit about how you interact with Simard Payne?

3. Are there any changes you would make to the park involving safety, amenities, or facilities?

Interviewee 3:

Age: Gender: Race:

1. Do you live close to Simard Payne?

2. Would you mind telling me a little bit about how you interact with Simard Payne?

3. Are there any changes you would make to the park involving safety, amenities, or facilities?

Interviewee 4:

Age: Gender: Race:

1. Do you live close to Simard Payne?

2. Would you mind telling me a little bit about how you interact with Simard Payne?

3. Are there any changes you would make to the park involving safety, amenities, or facilities?

Interviewee 5:

Age: Gender: Race:

1. Do you live close to Simard Payne?

2. Would you mind telling me a little bit about how you interact with Simard Payne?

3. Are there any changes you would make to the park involving safety, amenities, or facilities?

Appendix 8: Marcotte Park Sampling Packet

First: Go up to any parents in the park -- masked or unmasked (if unmasked stand extra far away) and explain that you are working with the city of Lewiston Economic and Community Development Department. You are trying to help them understand community usage of the park, and any changes, especially around their investment in Jude's Place (the playground). DO THIS SO YOU ARE NOT JUST WATCHING THEIR KIDS.

Overall: Samples will be taken by one observer sitting at the stump at the top of the hill. Observer should be able to see the playground and small grass patch in front of them. When new parents arrive, observer should introduce themselves once they are set up. Observations will last for 45 minutes, and will be followed by 15 minutes of informal interviews.

Goals: Understand what people are doing in the park, and how they interact with the space, especially with Jude's Place

Daily Characteristics

Place Name	
Time and Date of Observation	
Litter Level (minimal, moderate, excessive)	
Homeless People Observed (count)	
Food Vendors Observed (count)	
Dogs off Leash Observed (count)	
Daily Weather	
Mean Temperature (F) During Observation	
Police Presence (count)	

Activities Observation Count

Activity Type	Children	Teens	Adults	Seniors
Using Park Amenities (Playground)				
Playing Sports - Grass or Other				
Running				
Walking				
Sitting or Relaxing				
Picnic				
Other (Wedding, Event, etc.) -- Specify				

Hi, My name [___] and I am working with the City of Lewiston Economic and Community Development Department. Would you be able to answer a few questions for me? It shouldn't take more than two minutes.

Questions:
1. Age (infer)
2. Gender (infer)
3. Race/ethnicity (infer)
4. Do you live close to Marcotte?
5. Would you mind telling me a little bit about how you interact with Marcotte?
6. Are there any changes you would make to the park involving safety, amenities, or facilities?
7. How would you summarize your child's experiences with this park?

Interviewee 1:
Age: Gender: Race:

1. Do you live close to Marcotte?

2. Would you mind telling me a little bit about how you interact with Marcotte?

3. Are there any changes you would make to the park involving safety, amenities, or facilities?

4. How would you summarize your child's experiences with this park?

Interviewee 2:
Age: Gender: Race:

1. Do you live close to Marcotte?

2. Would you mind telling me a little bit about how you interact with Marcotte?

3. Are there any changes you would make to the park involving safety, amenities, or facilities?

4. How would you summarize your child's experiences with this park?

Interviewee 3:
Age: Gender: Race:

1. Do you live close to Marcotte?

2. Would you mind telling me a little bit about how you interact with Marcotte?

3. Are there any changes you would make to the park involving safety, amenities, or facilities?

4. How would you summarize your child's experiences with this park?

Interviewee 4:

Age: Gender: Race:

1. Do you live close to Marcotte?

2. Would you mind telling me a little bit about how you interact with Marcotte?

3. Are there any changes you would make to the park involving safety, amenities, or facilities?

4. How would you summarize your child's experiences with this park?

Interviewee 5:

Age: Gender: Race:

1. Do you live close to Marcotte?

2. Would you mind telling me a little bit about how you interact with Marcotte?

3. Are there any changes you would make to the park involving safety, amenities, or facilities?

4. How would you summarize your child's experiences with this park?

Appendix 9: Story Map Locations

Community Food Hubs
Kennedy Park Community Food Center
- 60 Pine Street, Lewiston ME, 04240
- St. Mary's Nutrition Center will open a new community food hub on the ground floor of the new Kennedy Park apartments site. The Kennedy Park Community Food Center will operate out of the space that has been set outside for commercial ventures. The Center will be accessible by foot, bike, bus, or car.

Education
Promise Early Education Center
- 1 College Street, Lewiston ME, 04240
- Lewiston Housing will renovate their current offices to create a space for Promise Early Education, the Head Start and Early Head Start Program for Androscoggin County. The new Promise Early Education Center will expand early education opportunities in the Tree Streets Neighborhood. The space will be configured with two Early Head Start compliant classrooms (6 months to 3 years) and three Head Start compliant classrooms (3 years to 5 years) to accommodate 50 children in a best-practice infant-toddler care continuum. The programs will be mixed income, and spots will be prioritized for the former residents of Maple Knoll who elect to live in one of the Maple Knoll Replacement units. Early education is a critical component of future educational development, and this is an important step to ensure it is accessible to all members of the Lewiston community. The renovation also will include solar, lowering long-term expenses for Promise and promoting clean energy and energy independence in Lewiston.

Health
B Street Health Center Expansion
- 57 Birch Street, Lewiston ME, 04240
- Lewiston Housing is renovating the existing B Street Health Center. This renovation will allow Community Clinical Services, who operate the Center to expand their coverage to include mental health services and pediatric dentistry, on top of the existing services they offer at 57 Birch Street.

Housing
Apartments on Kennedy Park (Target Housing Replacement Site 1)
- 40, 54, and 60 Pine Street, Lewiston ME, 04240
- The Apartments at Kennedy Park are the first of three replacement sites for the Maple Knoll Apartments, which have been categorized as beyond repair. The Apartments at Kennedy Park will be a set of two four-story buildings along the northern edge of Kennedy Park. This high-priority project will create 71 one-bedroom and two-bedroom homes. The 71 apartments will include 35 Maple Knoll replacement units, 14 affordable workforce units, and 22 units offered at market rate. The building will have elevator access, attached parking, and the first floor will be made up of commercial space and the new Kennedy Park Community Food Hub operated by St. Mary's Nutrition Center.

Replacement and Rehabilitation Homes (Target Housing Replacement Site 2)
- 91 Pine Street, Lewiston ME, 04240
- 101 Pine Street, Lewiston ME, 04240
- 111 Pine Street, Lewiston ME, 04240
- 69 Pierce Street, Lewiston ME, 04240
- 74 Pierce Street, Lewiston ME, 04240
- 75 Pierce Street, Lewiston ME, 04240
- 78 Pierce Street, Lewiston ME, 04240
- 79 Pierce Street, Lewiston ME, 04240
- 82 Pierce Street, Lewiston ME, 04240
- 107 Bartlett Street Lewiston ME, 04240
- 111 Bartlett Street Lewiston ME, 04240
- 114 Bartlett Street Lewiston ME, 04240
- 115 Bartlett Street Lewiston ME, 04240
- 119 Bartlett Street Lewiston ME, 04240
- The construction on Bartlett, Pine, Pierce Streets is the second of three replacement sites for the Maple Knoll Apartments, which have been categorized as beyond repair. This project will include the construction of 74 new homes, as well as the rehabilitation of four units across 14 buildings. The buildings are varied, with a mix of small elevator, walkup, townhouse, and duplexes. Buildings will have between two and 12 apartments, including studio, one bed-one bath, three bed-two bath, four bed-two and a half bath, and two bed-one and a half bath units. This will accommodate for individuals, small, midsize, or large families. The latter is especially important because it may provide homes for full families of immigrant and refugee New Mainers. Overall, the buildings will comprise 37 Maple Knoll replacement units, 12 affordable workforce units, and 25 market rate units. The units were designed with input from the Maple Knoll Resident Advisory Committee and neighborhood residents. Although built in neighboring lots, each building will have yard space and each unit will have parking and private outdoor space through poaches or balconies. Each construction will be somewhat unique but maintain elements of older buildings already in the neighborhood, which will help beautify and maintain a sense of community in the neighborhood.

Target Housing Replacement Site 3
- 70 Blake Street, Lewiston ME, 04240
- The Blake Street homes, tucked between the Basilica of Saints Peter and Paul and the Blake Street Towers, is the third of three replacement sites for the Maple Knoll Apartments, which have been categorized as beyond repair. The buildings will be three story midrises and two-story townhouses, containing a mix of one, two, and three-bedroom apartments to accommodate small to midsize families. Of the 40 total units, 20 will be designated as Maple Knoll replacement units, 12 will be affordable workforce units, and eight will be market rate.

Redevelopment of Maple Knoll Housing
- 82 Maple Street, Lewiston ME, 04240
- Currently, the Maple Knoll Apartments are densely populated and a center of concerns about safety in the neighborhood. The Transforming Our Tree Streets Choice Neighborhood

Transformation Plan has identified Maple Knoll as a severely distressed housing development beyond feasible rehabilitation. Current Maple Knoll Residents will be prioritized for replacement sites at the Apartments at Kennedy Park and the new homes around Bartlett, Pine, Pierce, and Walnut Streets, as well as the replacement site at 70 Blake Street. In the long-term, once all current residents are moved out, the development will be replaced with 13 for sale and rent-to-own townhouses and duplexes. Transforming Our Tree Streets has committed that at least some of these homes will utilize a new financing tool for interested Muslim buyers to give Shariah-compliant pathway to homeownership.

Raise op Cooperative Housing Expansion 1
- 190 Blake Street, Lewiston ME, 04240
- Raise-op, in conjunction with Herbert Construction and Bild Architecture, are designing nine-unit apartment building expansions. These buildings will serve both single adult households and families, providing a lead-free home for up to 22 children and ground-floor units accessible to people living with disability. The new buildings are being built based on input from current residents and is going to be built to Passive House standards, which require very low energy costs to heat and cool.

Raise-op Cooperative Housing 2 & 3
- 84 Walnut Street, Lewiston ME, 04240
- 94 Howe Street, Lewiston ME, 04240
- Raise-op, in conjunction with Herbert Construction and Bild Architecture, are designing nine-unit apartment building expansions. These buildings will serve both single adult households and families, providing a lead-free home for up to 22 children and ground-floor units accessible to people living with disability. The new buildings are being built based on input from current residents and are going to be built to Passive House standards, which require very low energy costs to heat and cool.

Grauveau Place
- 82 Pine Street, Lewiston ME, 04240
- Avesta Housing, through a partnership with Community Concepts, is developing Grauveau Place, a 35-unit building. It will create safe, affordable homes for both individuals and families. The building is named for Paul Grauveau, a Lewiston attorney and former legislator who was heavily invested in public service to his community and involved with Tri-County Mental Health Services, Kiwanis, Community Concepts among others.

Healthy Neighborhoods Mini Grants
Pop Up Garden (PUG)
- 115 Bartlett Street, Lewiston ME, 04240
- The PUG is an event space and community garden that functions as "everyone's backyard in a downtown where backyards are rare." It also has a shed, referred to as the dog house, stocked with standard event supplies, as well as a basketball hoop, bike rack, and sidewalk chalk for the driveway. The space is available for free to area residents for cookouts, birthday parties and more, or to organizations for a small fee.

Raised Bed Garden
- 144 Pine Street, Lewiston ME, 04240
- The Community Credit Union staff maintain a garden and connect to local organizations serving groups with unmet food needs. The produce from the garden is then distributed through these channels or used by the employees.

Lewiston Action Activities

Hudson Bus Lines Site Soccer Fields
- 280 Bartlett Street, Lewiston ME, 04240
- The City of Lewiston acquired the former Hudson Bus Line site as part of a program to replace public parkland that had been funded by the Land and Water Conservation Fund and later taken out of use with other sites. The City is utilizing the site to build a new soccer pitch with 37 adjoining parking spaces. To complete the project, the city has invested in the field, fencing, an irrigation system, paving, and some storm-water treatment. The site is close to the High School and Conners Elementary and is expected to be a community spot for students and the broader tree street community alike.

Paradis Park Entrance
- 180 Pierce Street, Lewiston ME, 04240
- The City of Lewiston engaged Next Steps High students to work with landscape architects and Lewiston Public Works to develop an improvement plan for Paradis Park that will be relevant and interesting to youth in the neighborhood while also addressing the challenges facing the park. The students were able to help create a new more welcoming entrance to the park, making it a space that invited all members of the community in to spend time together. Creating this entrance also included acquiring and demolishing an empty building that stood between the park and Bartlett street. The project also included soil remediation to ensure the health of the human and non-human community.

Linear Park Sledding Hills
- 156 East Avenue, Lewiston ME, 04240
- Within the 100 Acres of Franklin Pastures, the city is building two new sledding hills as well as wayfinding signage, bike racks, seating and an outdoor classroom space. Much of the land is relatively undeveloped, and this development should ensure a fun recreational space, especially for kids and families in the winter months. It will also hopefully help promote higher rates of walking to school as it will open the area and higher numbers of students will be crossing the area to go to Connors elementary and the High School.

Kennedy Park Beautification
- 120 Park Street, Lewiston ME, 04240
- In an effort to help rehabilitate the image of Kennedy park and help create new relationships for residents with the space, the City took on a series of changes. This included a water feature in the center of the park, as well as the development of a social area with decorative seating and tables oriented to encourage conversation, public Wi-Fi, a shade structure, and wheelchair charging

station. This built on an earlier project, completed in the Fall of 2019 to install lights throughout the park to make residents feel safer in the space, especially at night

WiFi Nodes
- Recognizing the significant barrier lack of access to WiFi poses to students and families to be able to access services, Lewiston is creating a network of overlapping coverage to serve residents in the Replacement Units and in the Tree Streets at large. Sites will be located at the new Apartments on Kennedy Park, the new replacement site construction on Bartlett, Pine, Pierce Streets, the replacement sites on Blake St., the Community Concepts office on Bates Street, the East side of Kennedy Park, the Root Cellar on Birch St., B-Street Health Center on Birch St., the Raise-Op Co-Op on Maple St. The Library will manage the system, providing access to their existing on-line services in addition to overall free internet.
- WiFi Node 1- Kennedy Park North
- WiFi Node 2- Pine and Bartlett St.
- WiFi Node 3- Ash and Blake St.
- WiFi Node 4- Kennedy Park East
- WiFi Node 5- Birch and Bartlett St.
- WiFi Node 6- Birch and Bates St.

Fire Hydrant Artwork
- The Fire Hydrant artwork is a project with the Tree Street Neighborhood Transformation Plan to increase public art in the Tree Streets Neighborhood. Community members painted various Fire Hydrants throughout the Tree Streets Neighborhood and downtown core of Lewiston.
- Deb Dee- Howe and Pine St.
- Grayling- Ash and Lisbon St.
- Krista- Oak and Middle St.
- Laura- Ash and Park St.
- Cory- Pine and Park St.
- Emily- Birch and Bates St.
- Megan - Birch and Bartlett St.
- Melanie - Park and Spruce St.
- Aiden- Park and Chestnut St.
- Courtney- Birch and Howe St.
- Zoe- Walnut and Horton St.
- Kris- Walnut and Blake St.