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Burlington and West Burlington

Transportation Opportunity Plan

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Transportation Opportunity Plan

Prepared by:

Molly Higgins Ella Phillips

Camille Lust Sanzida Setu Rahman

Ben Palya Josh Squires

City of Burlington

Angela Andon, *City Planner*

Nick MacGregor, *Assistant City Manager to Public Works*

Eric Tysland, *Development & Parks Director*

City of West Burlington

Therese Lees, *Council Member*

Gregg Mandsager, *City Administrator*

University of Iowa School of Planning and Public Affairs

Dr. Bogdan Kapatsila, *Assistant Professor*

Dr. Steven Spears, *Adjunct Instructor*

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GLOSSARY OF TERMS

AARP	American Association of Retired Persons
ACS	American Community Survey
ADA	Americans with Disabilities Act
ADU	Accessory Dwelling Unit
BUS	Burlington Urban Service
CID	Cedar Rapids Region
DOT	Department of Transportation
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GFA	Gross Floor Area
LPI	Leading Pedestrian Interval
MMT	Marshalltown Municipal Transit
MnDOT	Minnesota Department of Transportation
MPO	Metropolitan Planning Organization
NEA	National Endowment for the Arts
NHTSA	National Highway Traffic Safety Administration
PHB	Pedestrian Hybrid Beacon
ROW	Right of Way
SE	South-East
SEIBUS	Southeast Iowa BUS
SEIRPC	Southeast Iowa Regional Planning Commission
SS4A	Safe Streets and Roads for All
STBG	Surface Transportation Block Grant
TAP	Transportation Alternatives Program
TIGER	Transportation Investment Generating Economic Recovery
TOP	Transportation Opportunity Plan
US Census	United States Census Bureau

EXECUTIVE SUMMARY

The Burlington and West Burlington Transportation Opportunity Plan (TOP) addresses transportation barriers in both communities by connecting residents to employment opportunities and other important destinations within the community through walking, biking, and transit. To make these feasible, TOP aims to create land use patterns that make alternative transportation modes feasible.

Burlington and West Burlington both have high levels of vulnerable population groups. Both cities have aging populations and a high number of residents in poverty who lack vehicle access or have a disability. These groups were found to not be a focus in previous planning efforts in both communities, especially in transportation plans. While 79% of residents use an automobile to commute to work, the high number of individuals unable to drive demands an effective multi-modal transportation network. Other community members expressed a desire to walk, bike, and use transit to get around Burlington and West Burlington at various community engagement events during the planning period.

Feedback from the community, initial research, and the ensuing analysis led to the identification of three main barriers within the transportation network: issues with the pedestrian network, transit unreliability, and land use patterns that hinder connectivity within both communities. The pedestrian network was identified through Iowa Data Bike, observed conditions and community feedback. The analysis of walk score data, employment/residential density and observations helped identify land use as a barrier. Finally, transit was identified as a barrier through community feedback and a peer agency analysis with other similar transit agencies in Iowa.

While Burlington has a gridded street network and strong sidewalk coverage, community feedback and observed conditions revealed poor conditions and low accessibility that impact the utility of the network. West Burlington faces a different situation, as the city mostly consists of suburban development and lacks consistent sidewalk coverage. West Burlington has begun to fill in pedestrian network gaps, with projects such as the Southeast Iowa Community College Trail. Despite these improvements, many residents in West Burlington still lack access to sidewalks. Pedestrian comfort and safety were an issue identified by residents and safety data. Areas to the south and west of downtown Burlington had a high number of pedestrian injuries, suggesting the need to improve intersections where pedestrian-automobile conflicts may occur.

Burlington Urban Services, the transit agency serving both communities, was a major talking point at community engagement events in the fall and spring. Many residents are frustrated with the unreliability and confusing nature of the service. As a result, residents who need or would choose to use transit do not and must rely on more expensive taxi services or other community members for rides.

Land use patterns in both communities restrict the mixing of uses in most cases. By separating land by use instead of form, the physical distance between locations increases. These greater physical distances result in less feasible opportunities for active transportation and transit implementation.

To help improve sidewalk conditions, it is recommended to begin with creating an inventory in both cities and a prioritization system that includes weight for vulnerable areas. With conditions and a prioritization framework in place, both cities can create an improvement program that targets high-priority areas. Quick build projects can pilot safer pedestrian conditions in dangerous crossing areas to gauge community reaction before permanent improvements are made to the intersection.

To improve understanding, reliability, and efficiency, it is recommended that BUS switches to a fixed route. By switching to a fixed route, other impactful changes can be made to BUS. Wayfinding signs at stops would increase system clarity and awareness, while bus stop infrastructure would improve the experience of using the fixed route system. Extending service hours, alternative fare options, and real-time bus tracking are other recommendations that address concerns made by community members and have been received well.

Issues related to land use barriers can be addressed through changes to the zoning code in both communities. These changes look to increase the flexibility of business owners and residents by allowing different densities and uses. These changes include allowing more use mixing and increasing the allowable density of housing. Transforming large suburban parking lots into plazas, parks or event spaces can help reclaim lost land from suburban sprawl too.

While recommendations are made for each barrier, they will work together and create a community that shares a strong, connected multimodal system where residents can access daily needs without a personal vehicle with proper implementation. Better land use patterns will increase the feasibility of other modes, while an increase in transit ridership due to improvements can lead to more first-last mile pedestrian activity.

To make these seamless to implement, recommendations contain cost and time estimates, as well as implementation steps and external funding sources where applicable. Cities can start with low-cost and short-term recommendations to gain project momentum before moving on to more capital-intensive projects.

INTRODUCTION

The Burlington/West Burlington Transportation Opportunity Plan is a year-long analysis into Burlington and West Burlington's transportation network conducted through the Iowa Initiative for Sustainable Communities. Community visits by the team, feedback from the community through community engagement, focus groups, and desktop research identified the need for an improved multi-modal transportation system and land use patterns that support it.

Both communities have high levels of vulnerable population groups compared to the Iowa average that may not have access or be able to use a personal vehicle. While previous plans focused on improving trails and the recreational side of transportation, vulnerable populations were not a focus in recommendations. Despite this, other able-bodied community members expressed a desire to use different modes of transportation to reach destinations in initial community engagement events in the fall of 2024.

Three "barriers" were the focus of the analysis of the report: pedestrian infrastructure, land use, and transit. These barriers make up the greater transportation network and require attention in order to give residents improved mobility. Each section analyzes the current conditions and service, community sentiment, and relevant analysis.

TOP provides recommendations with cost and time estimates, as well as clear implementation steps and federal funding sources to facilitate successful implementation. These recommendations will work together to create a transportation system that serves the needs of the whole community and connects residents to destinations.

TRANSPORTATION OPPORTUNITY PLAN GOALS

Purpose and Guiding Principles

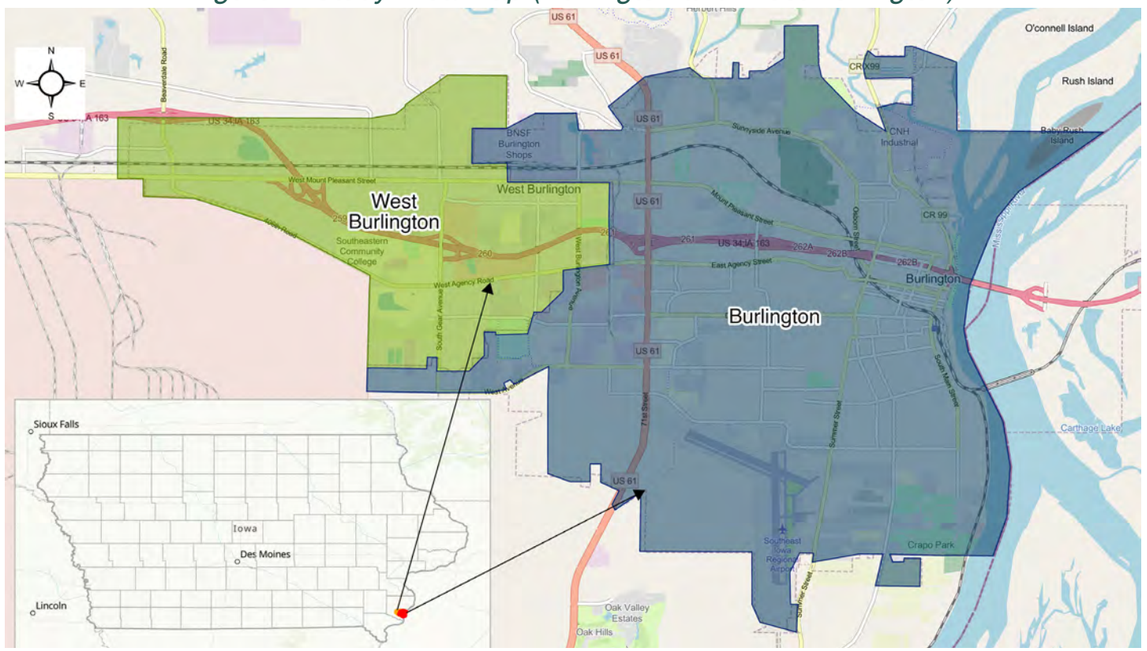
The planning team developed the plan's purpose statement as a response to desktop research, site visits, and evaluation of previous planning efforts within the communities. Recognizing a higher prevalence of demographics with unmet transportation needs as well as barriers within multimodal transportation networks, the team created the following statement to guide the planning process:

The purpose of the Burlington and West Burlington Transportation Opportunity Plan (TOP) is to improve transportation system equity and enhance the accessibility of activities. The plan envisions a strong, connected multimodal system that enables transportation mode choice for all community members. The plan strives to ensure that accessing daily needs does not rely on personal vehicle availability, and land use supports efficient and sustainable movement.

Study Area

The cities of Burlington and West Burlington lie in the southeastern corner of the state of Iowa, with the expansive Mississippi River serving as the eastern boundary for the community. The area is characterized by many natural and tourist attractions, including the Mississippi Riverfront area, Snake Alley, Crapo Park, and the Recplex. These attractions draw visitors and cyclists to the region to participate in yearly events, such as the Snake Alley Criterium. Together, the cities have a combined population of 26,726 (US Census, 2023), with most individuals living in the City of Burlington (23,565 residents). Although these two cities are separate entities, their proximity and shared amenities mean that community members travel between the two municipalities daily. Due to this proximity, efficient connections within and between each community are essential to allow residents to access all their daily needs.

Figure 1: Study Area Map (Burlington and West Burlington)



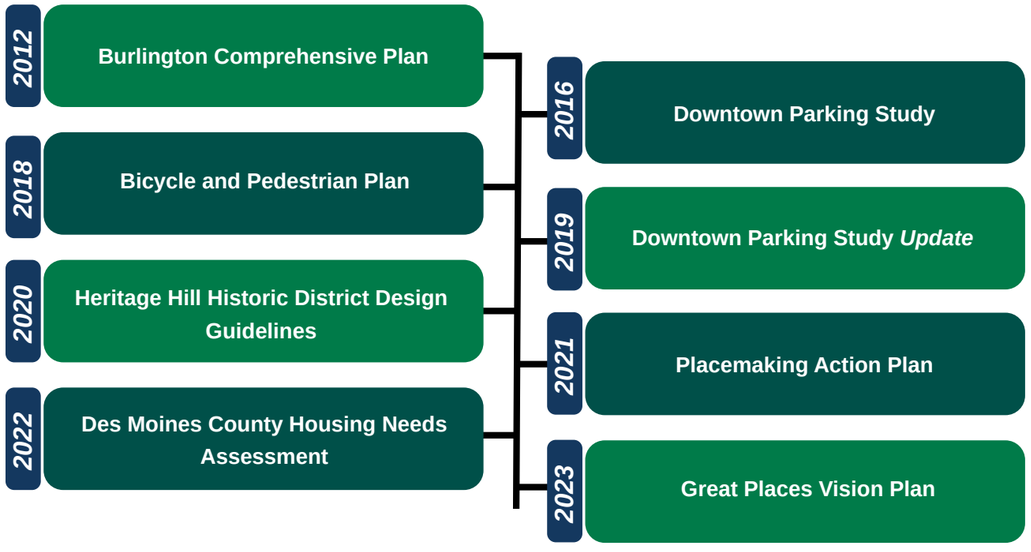
Transportation planning efforts can help Burlington and West Burlington prepare for the future of transportation and create a safer and better-connected network. Although there have been various transportation planning efforts in the community in the past, these efforts have focused on personal vehicles, and when other modes were included, efforts were centered around recreational opportunities. Transportation is an essential part of individual lives, connecting residents to jobs, educational opportunities, and other daily necessities. To ensure that every resident in the communities of Burlington and West Burlington can access these things with ease, the Transportation Opportunity Plan seeks to provide a framework to promote a variety of accessible, safe, and comfortable transportation options in the cities of Burlington and West Burlington. This framework seeks to understand and address three identified transportation barriers in the community: pedestrian infrastructure, transit, and land use. Working to address these barriers will allow residents to make connections across the community, no matter where they are coming from or where they are going.

ARRIVAL TO CURRENT CONDITIONS

Past Planning Efforts: Adding Greater Context

The communities of Burlington and West Burlington have varied past planning experiences. Past planning efforts completed by the City of Burlington are shown in Figure 2, beginning with the 2012 Burlington Comprehensive Plan. Among other topics, this plan identified various transportation and land use priorities for the community, including street repairs, increased access to alternative transportation modes, and the improvement of overall coordination with neighboring jurisdictions. Issues, including an aging workforce, the capital costs associated with infrastructure replacements and expansions, a disconnected pedestrian/bicycle network, and concerns with pedestrian/bicyclist safety, were identified. The plan outlined several opportunities for improvement, including access to the Mississippi River and Amtrak. Over the next ten years, more specific plans and studies covering various topics, including a Downtown Parking Study and Bicycle and Pedestrian Plan, were developed with the Comprehensive Plan serving as a guiding document.

Figure 2: Past Planning Efforts in Burlington and West Burlington



The recent reconstruction of Jefferson Street and Main Street in Downtown Burlington exemplifies the goals of these planning efforts. (Figure 3) This project was funded by the Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grant Program in 2017. This project seeks to better “pedestrian, bike, and bus transportation modes” and included complete-streets-style improvements (City of Burlington Receives Prestigious All-Star Community Award from the Iowa League of Cities Press Release, 2024). Construction on this project was completed in 2023.

The City of West Burlington adopted an updated comprehensive plan on April 8, 2025. The planning process took a little under a year and a half and includes initiatives to diversify land use, improve the pedestrian network, and increase its economic standing. Many of these goals align with TOP, showing there is a desire amongst city officials to improve the city’s transportation network.

Although there are differences in the extent of past planning efforts between the two cities, a common gap in planning recommendations and the focus population of planning efforts prevails. While various recommendations about pedestrian and bicyclist infrastructure emerged from these past planning efforts, the focus has mainly been placed on recreational opportunities and infrastructure. These gaps in previous planning efforts have made clear the need for a renewed focus on transportation system equity.

Figure 3: Burlington Downtown and Riverfront Project Location

Source: The City of Burlington

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COMMUNITY PROFILE

Highlights of Community Profile

This section reports and analyzes the demographics of Burlington and West Burlington. These insights illustrate existing transportation barriers and the need for more inclusive and accessible mobility solutions. Several trends highlight the need for TOP.

Age Distribution and Mobility Needs

- Aging Population: An increase in seniors (ages 65-69) highlights the need for accessible pedestrian infrastructure and transit options.
- Young Residents: A significant number of children (ages 5-9) underscores the importance of safe walking and biking routes to schools and parks.

Disability and Accessibility Challenges

- Burlington and West Burlington have a combined disability rate 5 percentage points higher than the state average, further showing the need for ADA-compliant infrastructure and reliable transit options.

Economic Barriers to Transportation

- Higher Poverty Rate: 17% of residents live below the poverty line, 6 percentage points higher than the state average. As a result, both communities should provide affordable and accessible transportation to connect their residents to economic opportunities.

Population Trends and Mobility Needs

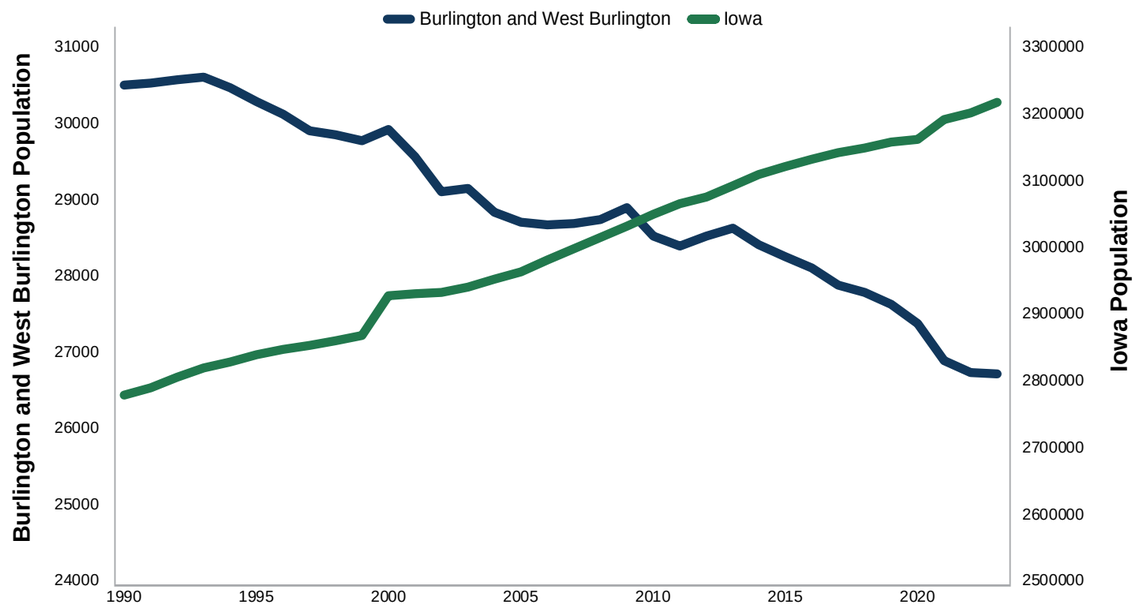
- Declining Population: Burlington and West Burlington's combined population decreased 6.17% from 2013 to 2023. The population decline highlights the importance of prioritizing cost and resource effective solutions to identified barriers.

Understanding the demographics of Burlington and West Burlington informed TOP of its scope and focus areas within the transportation system and community. This section provides a detailed analysis of the population characteristics of Burlington and West Burlington while identifying key trends and challenges that affect transportation access. Population, age distribution, disability prevalence, poverty status, and transportation mode choices are highlighted in this section. By understanding who lives in the community, TOP can focus on solutions relevant to those most in need.

Total Population and Age Distribution

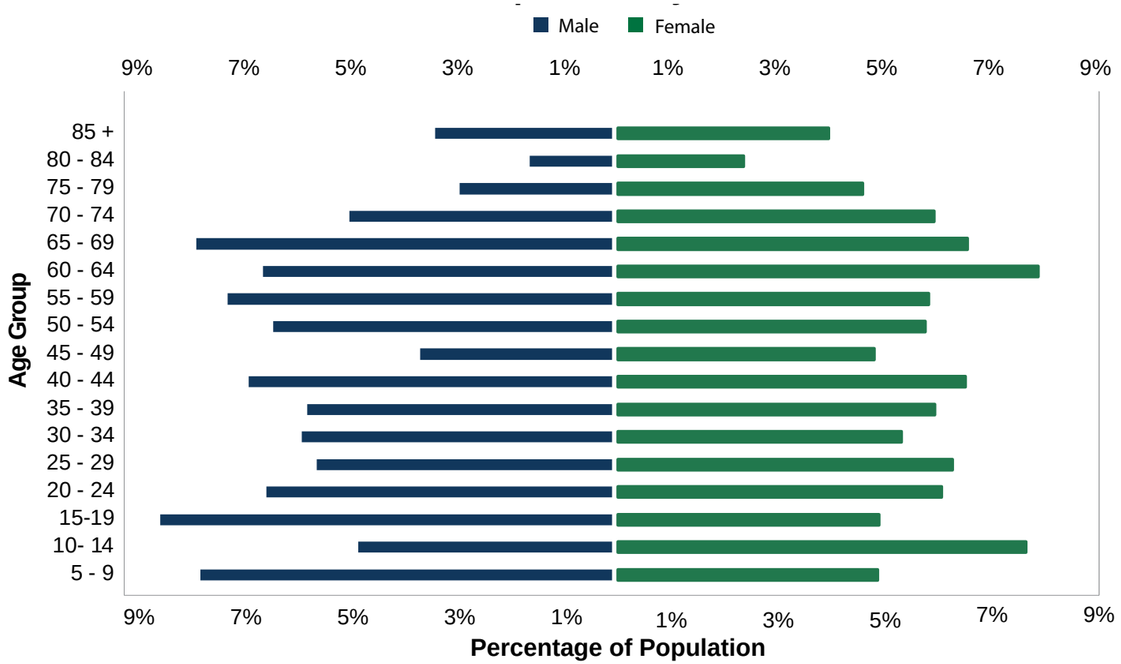
Over the past two decades, the communities of Burlington and West Burlington have experienced significant challenges due to population decline, with decreases of eight percent and nine percent, respectively. Over the same 20-year period, the state of Iowa has seen an eight percent increase in population. The population decline has resulted in a shrinking tax base for both municipalities to generate revenue for public services and infrastructure.

Figure 4: Burlington and West Burlington Combined Population from 1990-2020



Children aged 5-19 and adults aged 55-69 make up the largest age cohorts in both communities. These statistics suggest a need for tailored services and infrastructure that cater to both young families and the aging population. More specifically, the growing senior demographic requires more services and assistance to travel and age in the community, such as accessible transportation, healthcare services, and age-friendly infrastructure (Huxhold & Fiori, 2018). With a few large cohorts of residents just below senior age, these services will continue to be essential well into the future as the senior population grows. The large number of children in both communities highlights the need for safe sidewalks and dedicated spaces to travel by bike and scooter.

Figure 5: Burlington and West Burlington Combined Population Pyramid



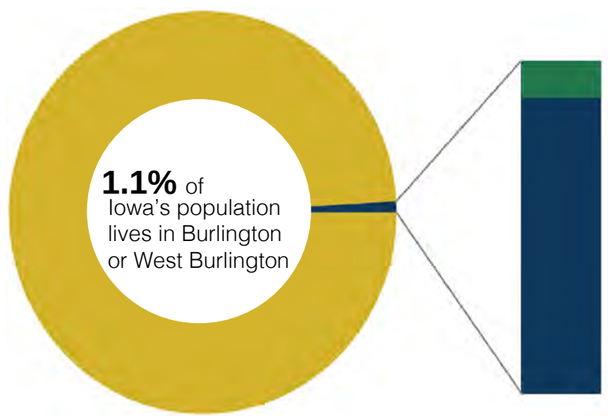
U.S. Census Bureau. S0101: Age and Sex (2023).

Disability Status

Disability prevalence in both communities reflects the need for effective transportation modes outside of driving a personal vehicle. The combined disability rate of both communities is 17%, 4 percentage points higher than the state population. This elevated rate underscores the need for infrastructure and transit that adheres to ADA standards to ensure public spaces and transportation are accessible to all.

Figure 6: Burlington and West Burlington and State Disability Status

Cumulatively **17%** of Burlington and West Burlington residents have a disability **4%** points higher than the state.

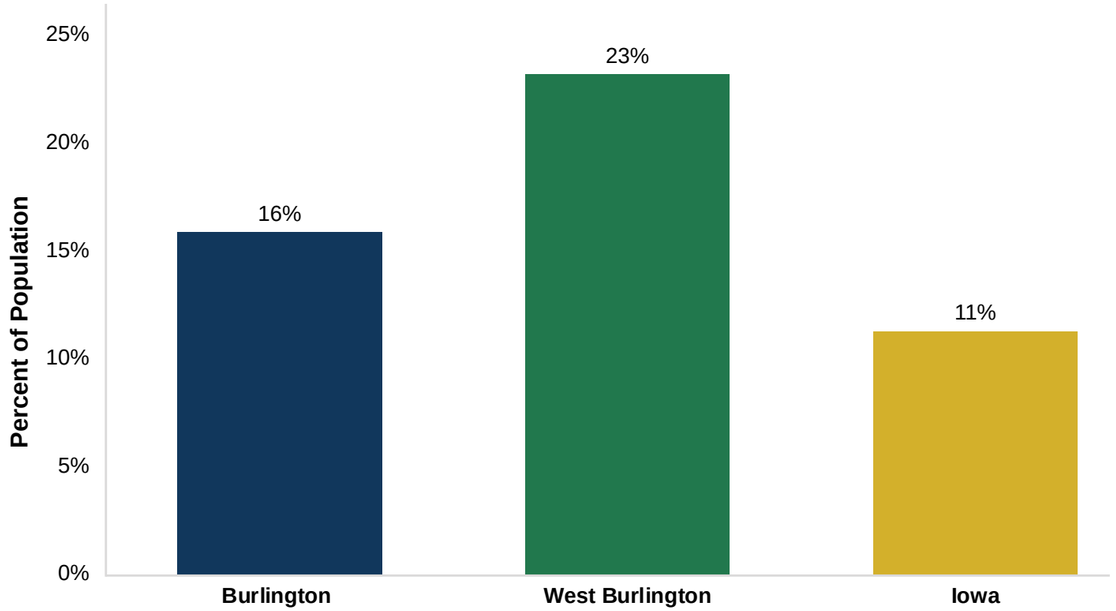


Burlington	West Burlington
0.8% of the state population resides in Burlington	**0.75%** of the state population resides in West Burlington
18% of residents are disabled **1.1%** of persons in the state	**15%** of residents are disabled **0.99%** of persons in the state

Poverty Rate and Vehicle Ownership

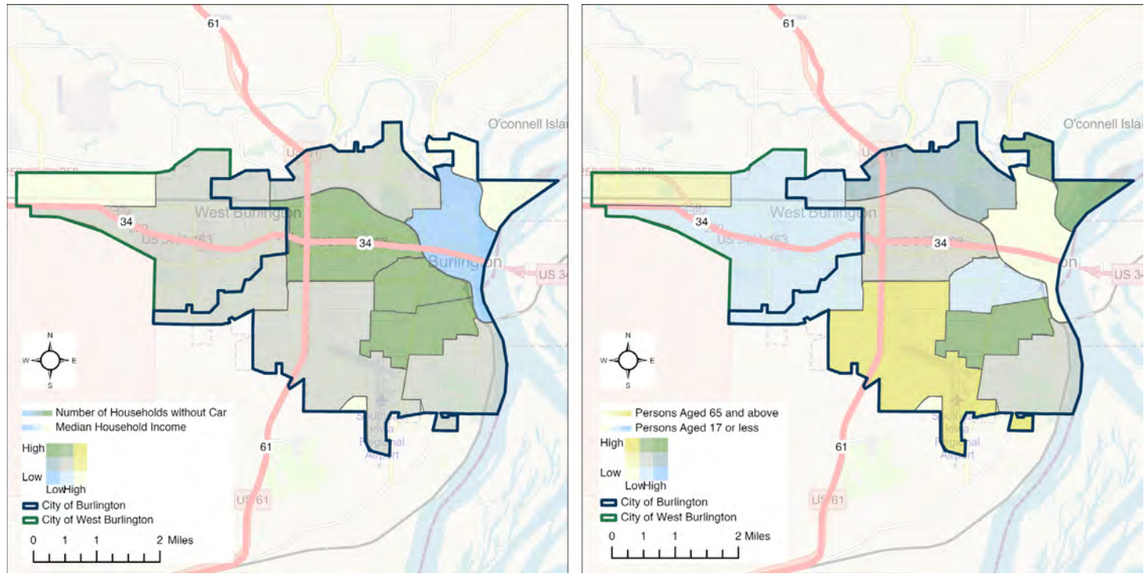
Those living in poverty may also face difficulties traveling in and around Burlington and West Burlington due to the cost of owning and operating a vehicle. With a combined poverty rate of 17%, this is an issue many residents currently face. Those in poverty may not have vehicle access due to the cost of owning a vehicle, making it crucial for other modes of transportation to be available. The separation of uses can make this difficult, as living, employment, and recreational centers are often separated in the TOP study area. Strong transit can be an effective way to bridge these distances in the community.

Figure 7: Population Living Below Poverty Level (2023)



Poverty affects some neighborhoods disproportionately, as evident from Figure 8, which maps vehicle access relative to household income. Census tracts 3 and 4 in central-west Burlington have low median household incomes and limited vehicle access. Both tracts have a median income of at least $22,000 lower than the area median income and a combined 467 households without personal vehicle access. Looking at these figures spatially can help target which neighborhoods stand to benefit the most from improvements in transportation access. These findings indicate that central neighborhoods face significant transportation challenges. Addressing these disparities is essential for building a more sustainable community, as economically disadvantaged residents can have improved access to employment and essential services. A community where all residents have access to employment and other opportunities stands to benefit everyone.

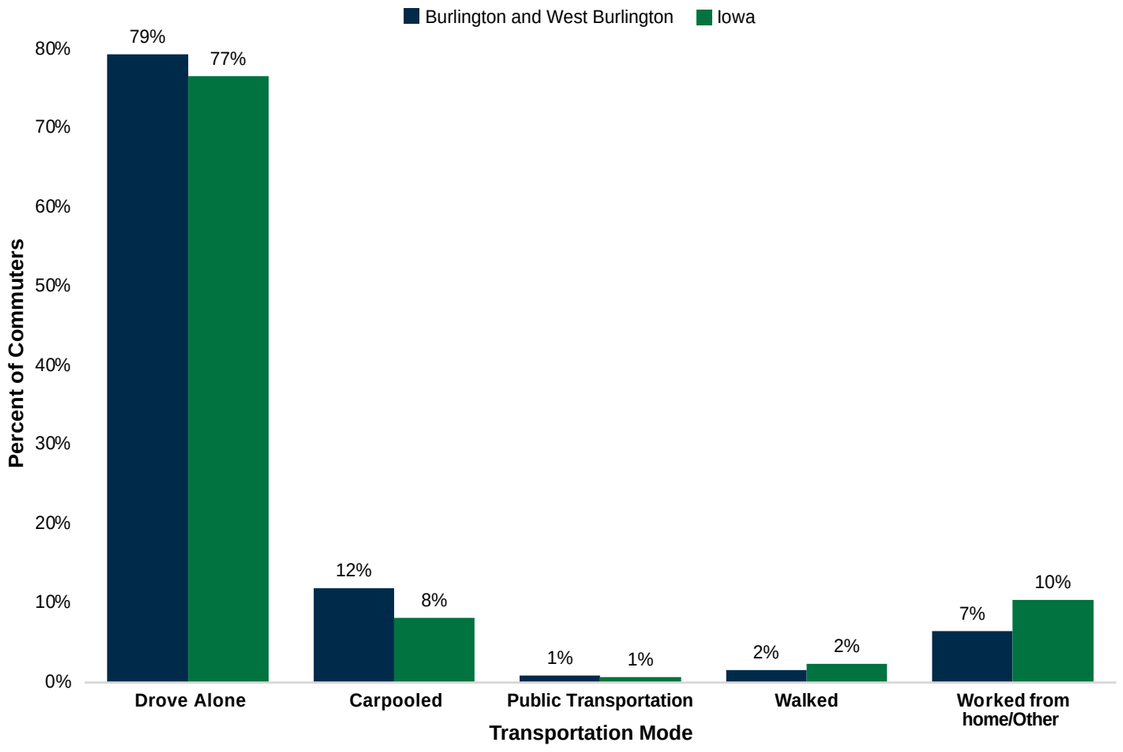
Figure 8: Distribution of Age, Vehicle Availability, and Income



Current Travel Patterns

Current commuting patterns show 79% of Burlington and West Burlington residents commute alone to work, two percent higher than the state average. While this may reflect the preference of residents to drive, the current lack of feasible alternative transportation opportunities in both communities means many residents may not have a choice in how they commute. Furthermore, the prevalence of short commutes, with 61% of individuals traveling less than 15 minutes for work, is 20 percentage points higher than the state average of 41%. These insights reflect the feasibility of implementing and having community members use other forms of transportation to commute to work, activities, and other services within the community.

Figure 9: Method of Transportation to Work in 2023 (U.S. Census Data)



U.S. Census Bureau. (2023). B08012: Means of Transportation to Work by Vehicles Available

ANALYSIS OF CURRENT TRANSPORTATION BARRIERS

Transportation barriers are obstacles that limit the ability of individuals to efficiently and safely travel within their community. These barriers can take many forms such as infrastructure deficiencies, land use challenges, and transit service gaps. Addressing these barriers is critical for improving accessibility, safety, and mobility for all residents, particularly those who rely on alternative modes of transportation such as walking, biking, or transit.

Using public engagement and research, TOP identified three distinct areas of concern within Burlington and West Burlington. Breaking these concerns into specific categories allows TOP to identify key issues and propose targeted solutions. The three barrier categories identified in this plan include:

1. **Pedestrian Infrastructure:** Examines the safety, comfort, and ease of use of the sidewalk network and crossings to ensure a comfortable and connected pedestrian network.
2. **Connectivity and Land Use**: Investigates how zoning and land use patterns influence travel patterns and mode choice.
3. **Transit Accessibility**: Evaluates the efficiency, reliability, and coverage of Burlington Urban Services (BUS).

PEDESTRIAN INFRASTRUCTURE

The following sections contain an analysis of the current conditions, community sentiment towards each barrier, and relevant analysis and research to quantify the current conditions and inform solutions found later in TOP.

The pedestrian network is an important component of a city's transportation infrastructure, as this human-scale network allows people to connect their trips and destinations. Many trips begin, or end, with walking on a sidewalk. For example, transit riders must first use the sidewalk to walk to their stop before boarding the bus, before walking to their destination. On top of the necessity for residents, the placement of sidewalks might encourage some residents to walk in some communities. As a result, there is a correlation between sidewalks and community health, both economically and physically (Litman, 2025).

Burlington and West Burlington's pedestrian network is an important complement to the community's overall transportation network. The historic, grid-style development pattern of the City of Burlington creates an outline for a strong pedestrian network, with short block lengths that allow for more direct routes for pedestrians. West Burlington, although set up in more of a suburban structure, has begun to add sidewalks along its main corridors, including along South Gear Avenue. Despite the presence of the network, there is room for improvement in both municipalities to ensure residents have a comfortable and safe experience while using the sidewalk network.

HIGHLIGHTS OF PEDESTRIAN INFRASTRUCTURE BARRIERS

Pedestrian infrastructure in Burlington and West Burlington plays a crucial role in ensuring accessibility, safety, and overall connectivity for residents who walk to destinations. While some improvements have been made in recent years, challenges remain that hinder the usability of the pedestrian network. These challenges impact residents' ability to safely and conveniently walk to key destinations such as schools, commercial centers, and transit stops. The following are key themes that emerged from assessments, community feedback, and policy reviews:

Four Major Barriers to Pedestrian Infrastructure

1. Sidewalk Quality and Maintenance
- Many sidewalks in Burlington are uneven, narrow, or obstructed by debris, creating hazardous conditions.
- Some sidewalks terminate abruptly, forcing pedestrians to walk in the street.
- West Burlington has a limited sidewalk network, especially along major roads like Agency Street and Gear Avenue. This restricts pedestrian access to many key destinations.

2. Sidewalk Network Gaps
- Significant gaps exist between residential and commercial areas in West Burlington, making pedestrian trips inconvenient or unsafe.
- The lack of pedestrian facilities near Southeastern Community College affects students and staff who rely on walking.

3. ADA Compliance
- Only 28% of the 3,672 curb ramps in Burlington are ADA-compliant, leaving 2,647 non-compliant ramps that create barriers for individuals with disabilities.
- The absence of curb ramps forces pedestrians to seek alternative, often unsafe, routes.

4. Pedestrian Comfort and Safety
- Many intersections are unmarked and lack pedestrian-friendly design, increasing safety concerns.
- The rugged topography of Burlington makes walking difficult for certain populations, including the elderly and those with mobility impairments.
- Poor lighting and inadequate crossings contribute to safety concerns, discouraging pedestrian activity.

Community Insights and Policy Challenges

- Community feedback indicates that 17% of residents prefer walking, and 33% specifically advocate for sidewalk improvements.
- Younger residents express a higher interest in active travel modes, reinforcing the need for a well-connected and safe pedestrian network.
- Existing sidewalk replacement policies place a financial burden on adjacent property owners, often leading to delays or neglect in repairs.
- The lack of funding and enforcement mechanisms results in a patchwork sidewalk network that fails to meet accessibility and safety needs.

CURRENT CONDITIONS

Current Sidewalk Network

As of 2021, there are currently 168.9 miles of sidewalk and 9.3 miles of trail in the City of Burlington. In contrast, there are 180.2 centerline miles in the City of Burlington. These data points show Burlington needs an additional 192 miles of sidewalks for both sides of each roadway to have sidewalk coverage. While not always necessary, sidewalks on both sides of roadways can shorten travel times and reduce the number of crossings pedestrians make.

Figure 10: Existing Sidewalk Network in Burlington and West Burlington

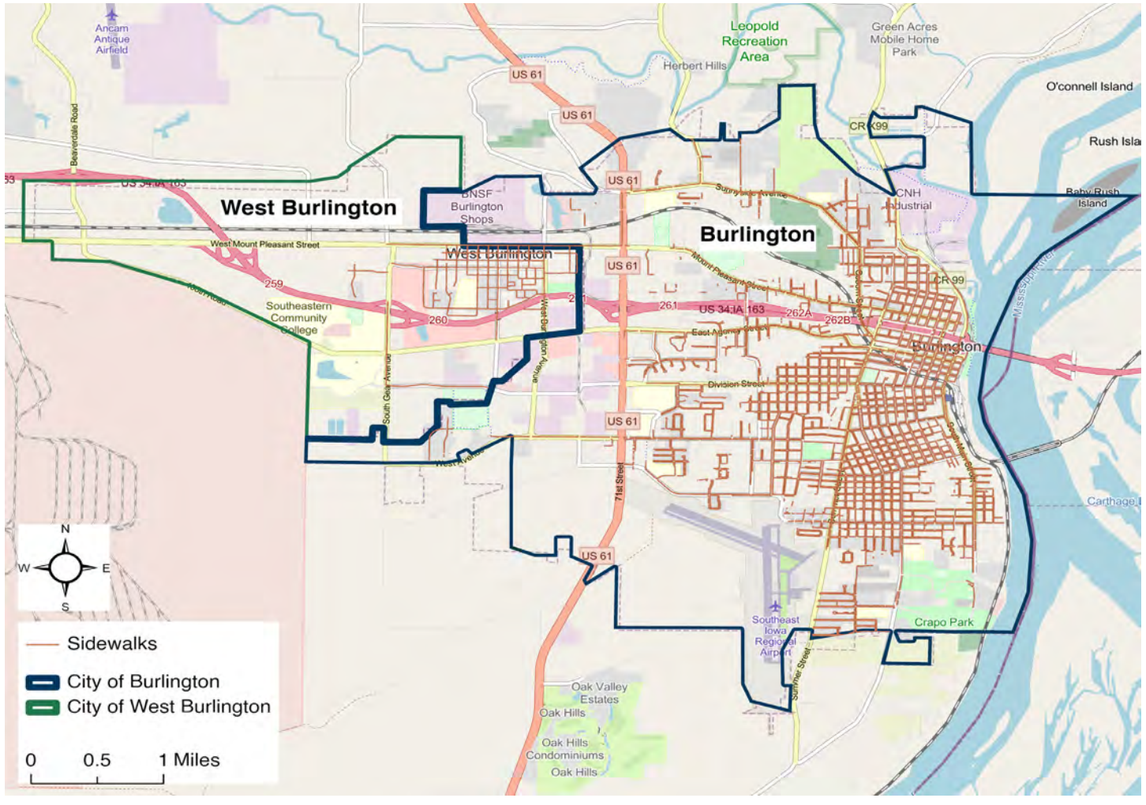


Figure 10 shows West Burlington's 22.13 miles of sidewalk inventory, which is updated as of 2024. Portions of Gear Avenue and Agency Street along the south side of town have had 9-foot-wide trails installed in recent years, which lies adjacent to Southeast Community College and Southeastern Iowa Regional Medical Center. While these trails are a great first step, the trail is isolated from the rest of West Burlington's sidewalk network, limiting its usability. As West Burlington looks to improve its pedestrian network connectivity, the separation of land uses and US Highway 34 represent physical barriers for creating a usable pedestrian network.

Initial Site Visit

In September 2024, an initial site visit was conducted in Burlington and West Burlington. Sidewalk conditions in both cities were observed. In Burlington, there were inconsistencies throughout the network. Most sidewalks throughout the downtown district were usable, with some intersections having painted crosswalks. However, many of the neighborhoods outside of downtown had sidewalks that were unpassable due to uneven pavement, narrow path widths and abrupt endings (See Figure 11) There were several instances of debris blocking the sidewalk. These conditions present challenges for any pedestrian, especially those with disabilities. On top of this, many intersections were not ADA compliant, and others lacked safe places to cross altogether.

Figure 11: Sidewalk conditions on Garnet St (Left) and N Central Avenue (right)

Compared to Burlington, West Burlington has a less developed sidewalk network. While the network is less extensive, it is in better condition. Major arterials, such as Agency Road and Gear Avenue have large segments where pedestrians cannot safely travel. Additionally, some major arterials in West Burlington, such as Mount Pleasant Street, only have sidewalks on one side of the road. Recently, the community has been working to build out this network, with the goal of developing sidewalks that serve Southeastern Iowa Community College and Southeast Iowa Regional Medical Center.

Community Feedback

Travel Mode Choice

Residents expressed their desire to walk and bike at both community engagement events. When asked: “If you could get around Greater Burlington in any way, how would you travel?”, 17% of respondents said they would choose to walk, while a further 17% chose to bike.

When prompted to place a sticker next to their top mode choice to get around Burlington and West Burlington, 8.3% of respondents expressed walking as their top choice. Other active transportation modes that could use sidewalks, such as skateboards, scooters, and bikes, made up 31.7% of the responses. This shows the need to give younger residents safe ways to actively travel, since many of the respondents were under 18.

Desired Changes

At the football game community engagement event, participants were asked: “If you could change anything about getting around in Greater Burlington, what would you change?” Out of the 25 responses, 33% were related to sidewalk and path conditions. These responses support the community’s desire to improve the pedestrian experience in both cities, which was also observed during site visits.

Moreover, focus group participants underscored the need to extend sidewalk access to key destinations such as the hospital and grocery stores. To get to these destinations, many residents currently must walk along the side of the road. Without sidewalks, many residents might be in more danger from vehicle traffic or be forced to take a more expensive mode of transportation.

Concerns with Pedestrian Safety

Pedestrian and cyclist safety emerged as key concerns during the initial public engagement events. Many participants noted the inconsistent conditions of sidewalks across the network in both cities. Additionally, most intersections lack proper markings and are not designed with pedestrians in mind. Focus group participants expressed that the poor quality of sidewalks in their neighborhoods made them feel uncomfortable and unsafe while walking, which in turn contributed to a sense of isolation from the broader community due to limited alternative transportation options. The design and condition of sidewalks and intersections are crucial not only for reducing pedestrian injuries but also for encouraging residents to engage with and utilize the transportation system (Carolin, 2019).

Current Sidewalk Replacement Policies and Challenges

Burlington and West Burlington have policies that place responsibility for sidewalk maintenance and replacement primarily on adjacent property owners. In Burlington, the city offers a cost sharing program that provides $18 per square foot of sidewalk replacements. West Burlington also has a cost sharing program that residents can apply to, although an exact funding amount is not guaranteed.

While these funding programs alleviate some of the financial burdens on residents, sidewalk repair and replacement expenses may still be too costly for many residents to justify, particularly those who are low-income. Additionally, delays in repairs can result in longer timelines for maintenance and sometimes lead to neglect, and the variability in enforcement contributes to the differing conditions seen throughout Burlington.

The burden of sidewalk maintenance was heard and decided in court in the 2024 Iowa State Supreme Court case, Bankers Trust v. City of Des Moines. It held that the city is responsible for notifying property owners of the need to repair the adjacent sidewalk. Once property owners are notified, if they do not replace the sidewalk themselves, the city must then make repairs and can bill the property owner for the cost of the repairs. This holding increases the need for cities such as Burlington and West Burlington to keep accurate sidewalk inventory, but it does require a significant increase in enforcement to avoid cities being held liable for injuries.

Accessibility and Sidewalk Condition Analysis

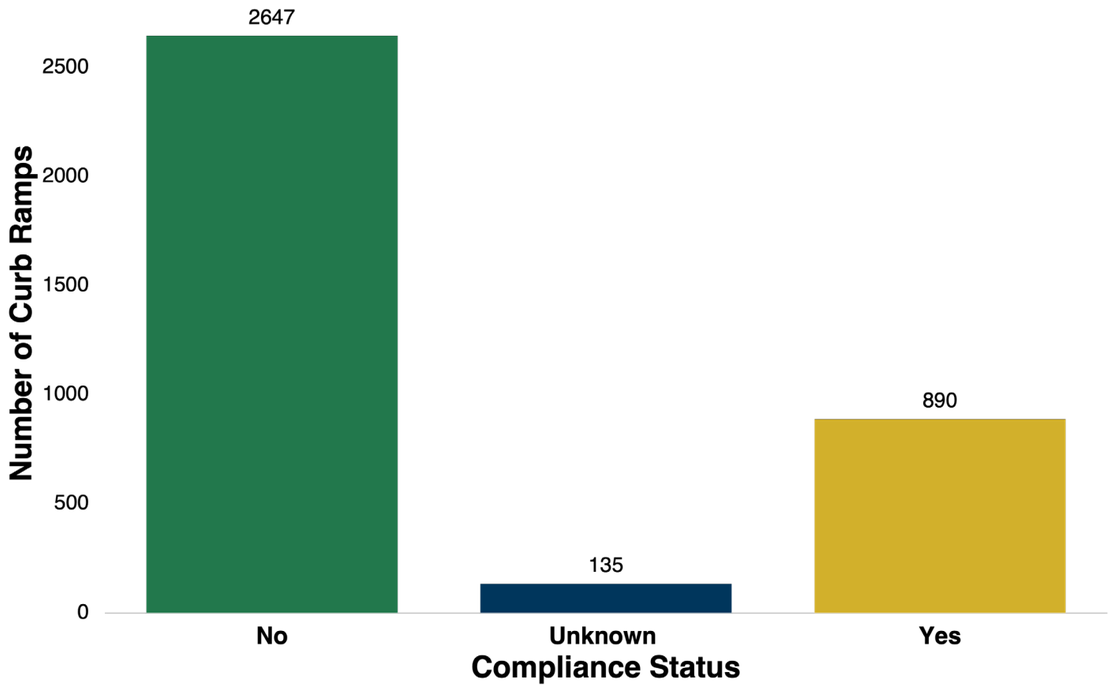
Accessibility Analysis

Curb ramps are an essential part of sidewalk infrastructure that enables those who use mobility devices, push strollers, or ride bikes or scooters to easily transition from the street up onto the sidewalk. The images presented in Figure 12 are examples of non-compliant curb ramps in Burlington and West Burlington. In these situations, individuals may be forced onto the street until they are able to find a driveway or other place to get on the sidewalk.

In 2019, curb ramps were inventoried in the City of Burlington which noted the location, compliance and year of construction for each ramp. The inventory focused on the core of the City of Burlington. Data on curb ramps was not available for West Burlington and the outer ring of Burlington.
As of 2019, just 28% (890) of the 3,672 inventoried curb ramps in Burlington were ADA-compliant (Figure 13). While there is no clear spatial pattern to ADA ramp compliance, there are pockets of compliance in north and south Burlington (see Figure J in the Appendix).

Figure 12: Observed Burlington Sidewalk Conditions

Figure 13: ADA Compliance of Status of Curbs, Burlington



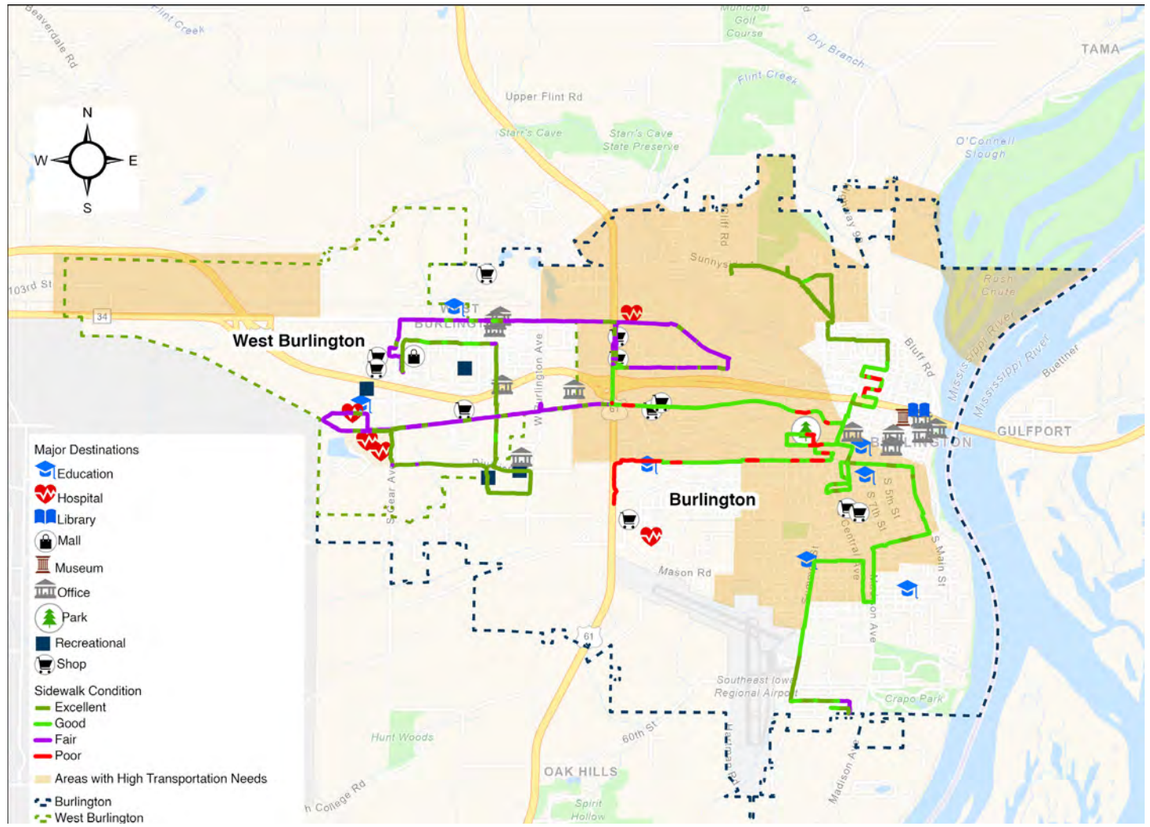
Iowa Data Bike Sidewalk Quality Assessment

To best understand existing sidewalk conditions, approximately 27 miles of sidewalk were surveyed in the community using the Iowa Data Bike. The Iowa Data Bike collects data on pavement roughness and condition as it is ridden along the sidewalks.

Planning Team Experience

The data collection process allowed members of the planning team to experience biking in the community and a first-hand look at sidewalk quality as they rode. Experiences varied across the community, with some sections of sidewalk being very comfortable to bike on and a smooth ride and other areas requiring team members to walk the bike or lift it over curbs and sidewalks in poor condition. Team members also faced the reality of abruptly ending sidewalks on one side of the street, being forced to transfer to the other side, often midblock. Beyond sidewalk conditions, team members faced numerous conflicts with aggressive or inattentive drivers. These conflicts often occur at crossings, especially unmarked crossings or at signalized crossings where drivers may not usually see pedestrians. While the planning team members who rode the data bike to collect this data were experienced urban cyclists, these challenges would not be as easily overcome by individuals using mobility aids or those who may not have much experience walking or biking, such as young children.

Figure 14: Sidewalk Condition Ratings from Data Bike Analysis



Results and Analysis

Results of the data collected by the data bike are displayed in Figure 14. The data bike analysis showed West Burlington had better sidewalk conditions compared to Burlington from the 27 miles of sidewalks sampled. 51.99% of West Burlington sidewalks were rated ‘excellent’, while 38.25% of sidewalks were rated ‘excellent’ in Burlington. West Burlington did not have any surveyed sidewalks in ‘poor’ condition, while 11.64% of Burlington’s sidewalk conditions were ranked as ‘poor’. These ‘poor’ conditions were scattered throughout Burlington, indicating this issue stems from individual property owners failing to improve their adjacent sidewalks. Most of the measured sidewalks in Burlington were rated ‘good’, while neighborhoods to the south and north of downtown Burlington were measured at an ‘excellent’ level. These measures back up observed conditions and community feedback, which asked for improved conditions to sidewalks in Burlington and more connections in West Burlington. This analysis provides a starting place for further inventory of sidewalk conditions across the community to continue to evaluate areas of need.

Table 1: Burlington Sidewalk Conditions

Sidewalk Condition Ranking	Miles of Sidewalk	Percent of Total Surveyed Length
Excellent	6.24	38.25%
Good	6.52	39.97%
Fair	1.65	10.14%
Poor	1.90	11.64%

Table 2: West Burlington Sidewalk Conditions

Sidewalk Condition Ranking	Miles of Sidewalk	Percent of Total Surveyed Length
Excellent	2.97	51.99%
Good	0.86	15.01%
Fair	1.89	33.09%

Pedestrian Safety Data

Pedestrian safety is crucial for those choosing to walk in Burlington and West Burlington. In 2023, over 7,000 pedestrian deaths occurred nationally, often due to high speeds and unsafe intersection conditions (NHTSA, 2023). Within both communities, there have been three pedestrian fatalities from 2020-2025 and many more reported injuries. Safety and comfort are vital in creating an attractive and functional pedestrian network. Improving safety in problem areas identified below can help attract more pedestrian activity and create a safer community environment.

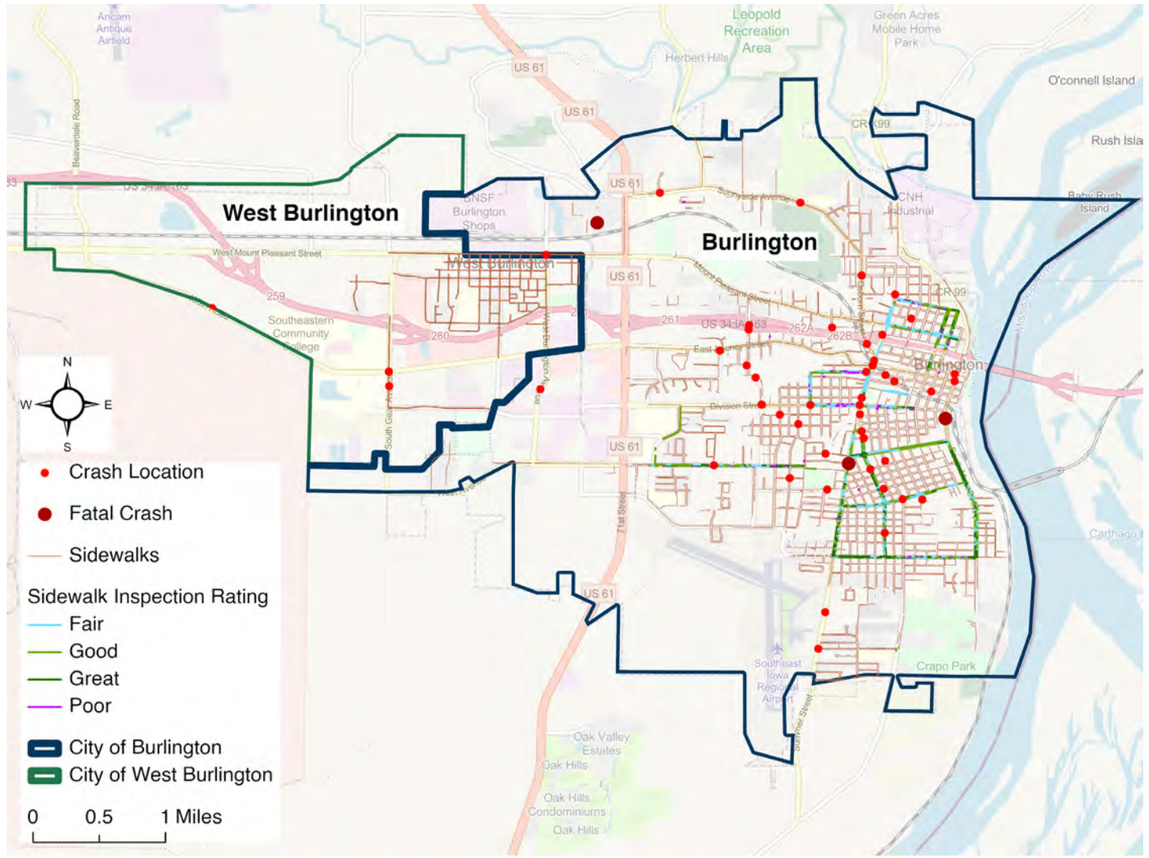
Table 3: Top Non-Motorist Crash Locations and Corridors

Location	Intersection Location or Corridor?	Number of Crashes Involving Non-Motorists
Central Avenue from Vine Street to Columbia Street	Corridor	7
Division Street & Plane Street	Intersection Location	3
South Street & S 9th Street	Intersection Location	2
Gear Avenue from Agency Road to Division Street	Corridor	2

Crash data from the Iowa Department of Transportation offers another insight to identify intersections and roads with the greatest need for safety improvements. From 2020-2025, there have been 53 crashes involving pedestrians, cyclists or other non-vehicular road users between both communities. Note that this data is reliant on there being a police report, so undocumented accidents or near misses are not accounted for in this analysis.

Of the 53 reported crashes that involved pedestrians, 38 occurred at intersection locations (defined as crashes that occurred within 150 feet of the intersection), and 15 crashes occurred at mid-block locations. As shown in Figure 15, most crashes involving pedestrians or cyclists occur in or around downtown Burlington. Most of these accidents occurred in South and Western Burlington, while there were very few accidents north of downtown Burlington and in West Burlington. Intersection locations and corridors with higher numbers of crashes involving non-motorists are displayed in Table 3. These areas with higher volumes of accidents involving non-motorists should be prioritized when making pedestrian safety improvements.

Figure 15: Crash Data Involving Pedestrians: 2020-2025



Iowa Department of Transportation (2025)

Table 4: Type and Time of Day of Crashes, 2020-2025

Severity	Crash Time	Count Severity
Fatal Crash		
	Day	1
	Night	2
	Total	3
Possible/Unknown Injury Crash		
	Day	11
	Night	5
	Total	16
Suspected Minor Injury		
	Day	18
	Night	7
	Total	25
Suspected Serious Injury		
	Day	5
	Night	4
	Total	9
	Grand Total	**53**

Iowa Department of Transportation, 2025

While details are not available regarding each specific crash, general information, such as the major cause of the crash, is summarized in Table 5. While many of these crashes had a major cause of “No Apparent Violation” (12 out of 53 crashes) or “Unknown” (13 out of 53 crashes), many were caused by distracted driving (8 out of 53). Other more specific causes, such as “stop sign violation” can provide potential next steps for improvements if it is found that signage is not clear at an intersection. While crash data can tell us about spatial patterns of crashes and some details involving the cause of the crash, environmental factors at the time of crash can provide greater context to contributing factors. Table 4 summarizes the time at which crashes involving non-motorists occurred and the level of injury that was sustained by victims. Two of the three fatal crashes occurred at night. Looking at the time of crashes can be another way to determine the cause and if improvements such as lighting would address crash causes.

Table 5: Burlington and West Burlington Non-Motorized Vehicle Crash Causes (2020-2025)

Major Cause	Number of Crashes
Distracted Driving	8
Improper Driving	4
No Apparent Violation	12
Signal Violation	1
Speeding	1
Stop Sign Violation	6
Sudden Maneuver	2
Unknown	13
Other	6

Data source: Iowa Department of Transportation, 2025

PEDESTRIAN INFRASTRUCTURE TAKEAWAYS

Well maintained and connected pedestrian infrastructure allows all members of the community to travel safely and comfortably to wherever they may want to go. Improvements to the sidewalk network and associated infrastructure would enable and encourage individuals to walk or bike and keep those who are reliant on these modes safe.

1. Many community members voiced a need for improvements to the pedestrian network, they currently feel as though there are areas where they are unsafe or uncomfortable as a pedestrian.

2. Sidewalk conditions should be further surveyed in the community to allow for prioritization of repairs, updates, and gap filling.

3. Improvements should be made to pedestrian crossings to prevent and address pedestrian crashes.

LAND USE

Land use plays a major role in shaping local transportation patterns and determining the accessibility of different modes. Through zoning, cities control the type and manner of development that takes place in different areas within their boundaries. Burlington and West Burlington both have use-based zoning codes, which determine the kind of activities—residential, commercial, institutional, and more—that can take place in each neighborhood. These codes also regulate the property features such as lot size, setback length and parking space requirements. While use-based zoning can help protect residents by keeping residents away from intensive uses such as industrial, there can be unintended consequences if non-intensive uses are heavily separated. These consequences are realized in the way people travel, as residents may not be able to walk or bike to commute to work, the grocery store or recreational activities. This large physical distance between destinations increases car dependence, even if a person would ideally take another mode of transportation.

Highlights of Land Use Barriers

Land use plays a key role in shaping connectivity and mobility. Land—where homes, services, and jobs are located—determines how we commute to these places. Sustainable land use emphasizes walkable, connected communities, while segregated land use forces reliance on automobiles.

Current Land Use Pattern

1. Single-Use Zones
   - Single-use zoning separates residential and commercial uses, forcing longer commutes and increasing car dependency.
2. Low Density Development
   - Large lot sizes and setback requirements, along with a lack of housing diversity such as accessory dwelling units, duplexes, and townhomes, reduce walkability and transit efficiency.
3. Excessive Parking Mandates
   - Downtown Burlington dedicates 21% of its land to parking, surpassing the land allocated for buildings. The combined occupancy rate of all riverfront parking lots is only 30%, resulting in underutilized land and missed opportunities for more effective land uses. Excessive parking requirements discourage new development and small businesses.

Community Feedback

- Community engagement events revealed residents' desires for changes in their neighborhoods, particularly increased opportunities for small-scale, mixed-use development.
- Desired Community Changes
- Neighborhood convenience stores
- Neighborhood grocery stores and laundromats
- Allow accessory dwelling units (ADUs), duplexes, and townhomes
- Transform empty parking lots into public spaces

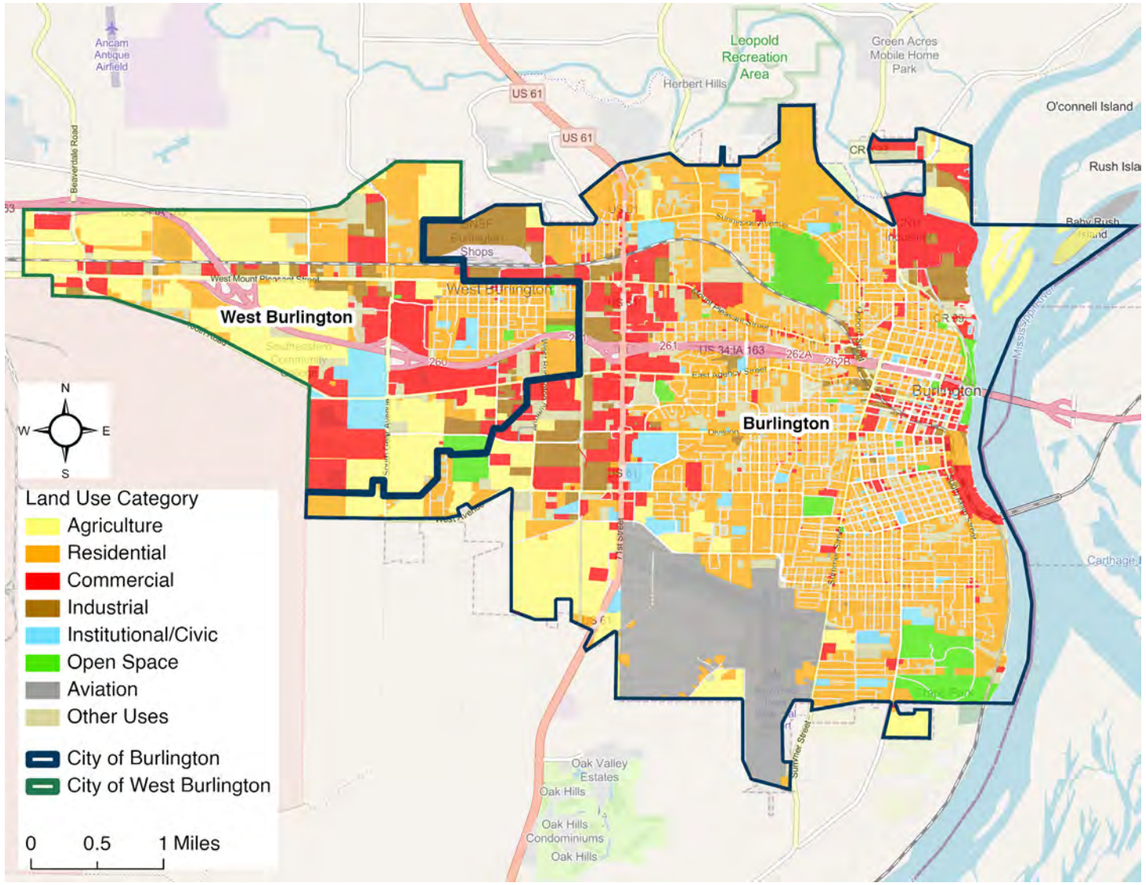
Key Takeaways

- Allowing mixed-use development can bring jobs and services closer to residential areas.
- Increased density supports creating walkable neighborhoods.
- Reducing parking minimums and transforming empty parking lots into mixed-use development can enhance land use efficiency that supports walking, biking, and transit.

Current Zoning

Current land use patterns in Burlington and West Burlington are segregated into single uses, with downtown Burlington being an exception. Most neighborhoods surrounding Burlington are residential, with few commercial uses. Industrial uses are found mostly in the western part of Burlington and throughout West Burlington. While industrial uses should be separated from other uses, the gap between most commercial centers and residential areas creates challenges for those without access to an automobile. Figure 16 exhibits the current land use patterns in the cities of Burlington and West Burlington.

Figure 16: Current Burlington and West Burlington Land Use



ZONING ORDINANCE AND LAND USE

The current land use patterns are heavily limited due to current zoning ordinances in Burlington and West Burlington. Both ordinances are use-based zoning ordinances that regulate the type and manner of development within their jurisdictions. Both cities' zoning ordinances delineate zoning districts for agricultural, residential, commercial, and industrial zones with some flexibilities in overlay districts, such as historic overlay zones, planned development units and mobile home planned development zones. Among residential uses, single-family housing dominates the landscape in both communities. Multi-family housing is concentrated mostly along major corridors and in downtown Burlington. Retail commercial and industrial uses are primarily concentrated along the major corridors such as US Hwy 34 and US Hwy 61, Agency St, Mount Pleasant St, West Burlington Ave and S Gear Ave. In West Burlington particularly, many commercial centers have big box layouts, with large stores, setbacks and parking lots. While most of Burlington is developed, West Burlington has some undeveloped land.

The current zoning approach of Burlington and West Burlington favors low density suburban growth characterized by the prevalence of single-use zones, high setback regulations, larger minimum lot size and higher parking minimums. These characteristics create barriers to compact development and discourage alternative transportation modes. By analyzing the current zoning ordinances for both cities, several zoning characteristics were observed that may create mobility barriers for residents.

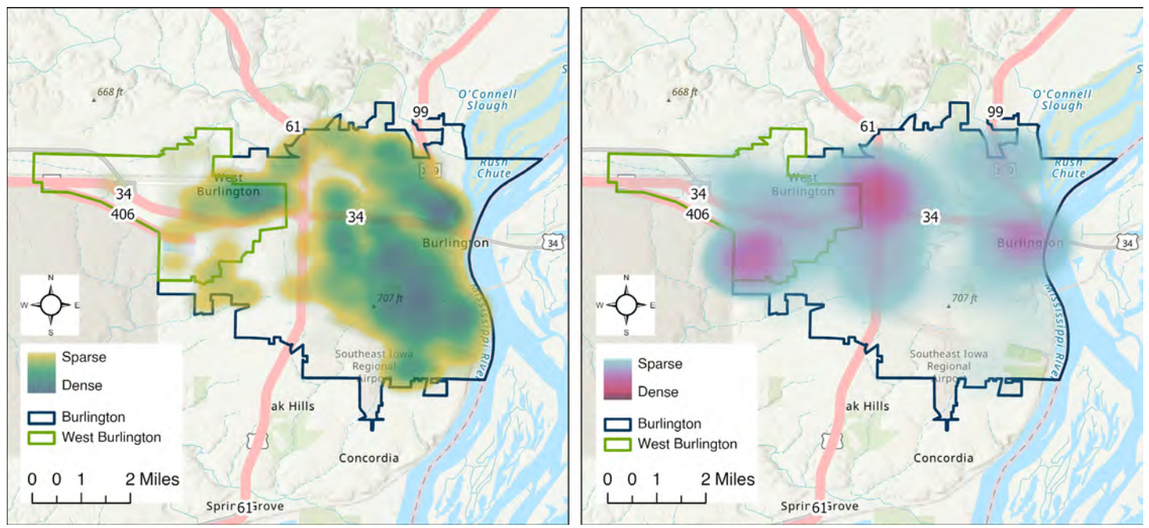
Single Use Zoning

Both Burlington and West Burlington have use-based zoning codes, which separate different types of uses from each other. For example, the residential zones in the City of Burlington do not allow for limited commercial or general commercial services except for tea and coffee rooms. Mixed uses allow for a greater variety of destinations within a single neighborhood. Evidence in the planning field suggests that mixing uses, rather than separating them, encourages people to walk more (Frank and Engelke 2001). Mixed use is also found to increase transit ridership (Frank and Pivo 1994).

To visualize the outcomes of these zoning policies, residential and employment densities were mapped (See Figure 17). The densities confirm the effects of use-based zoning, as residential and employment centers have little overlap. Neighborhoods to the south and west of Burlington are residential dominant, while North Central West Burlington is also residential dominant. This contrasts from the three main employment centers: downtown Burlington, the southwest corner of West Burlington and the Roosevelt Avenue area. The employment center in southwest West Burlington is manufacturing-heavy, which is more difficult to integrate with other uses due to externalities and large lot sizes. However, the other two commercial centers are more service based, which can be more easily integrated with residential areas.

Longer commuting distances to work limits transportation options and can decrease employment options for individuals without access to an automobile. By closing the gap between residential and commercial centers, residents can have access to more employment options and have greater choice in getting to work.

Figure 17: Residential and Employment Densities, Burlington and West Burlington



Low Density Development

The cities of Burlington and West Burlington require substantial area for each dwelling unit. Currently a combined 18% area in both cities are zoned single family residential (data extracted from geospatial analysis), which implies lower density in most of the residential areas. Both cities do not permit accessory dwelling units, indicating lower density, limited housing options. These regulations that increase the lot space required for a given development decrease neighborhood density by effectively allowing fewer residential or commercial units per acre. Low density has been found to have negative effects on residents' decisions to walk (Glazier et al 2014, Mooney et al 2020).

Table 6: West Burlington and Burlington Zoning Regulations

	Burlington	West Burlington
Primary Front Setback Requirements		
Residential	10ft	20ft – 50ft
Commercial	10ft	0-25ft
Institutional	10ft	50ft
Minimum Lot Area per Dwelling Units		
Single Family Residential	9,000 sf	7,500 sf
Transitional Single Family	6,000 sf	n/a
Two Family Residential	Single-Family: 5,000 sf Two-Family: 3,000 sf	Single-Family: 7,000 sf Two-Family: 5,000 sf
Multi-Family Residential	Single-Family: 5,000 sf Two-Family: 3,000 sf Multi-Family: 2,500 sf	Single-Family: 6,000 sf Two-Family: 5,000 sf Townhome/Condo: 3,500 sf Apartment: 2,000 sf Studio/Efficiency Apartment: 1,500 sf
Limited and General Commercial	Same as Multi-Family Residential	n/a
Expanded Use Options		
Accessory Dwelling Units	No	No
Home Occupations	Yes	Yes (single-family only)

Burlington, Code of Ordinances, 2025 and West Burlington, CHAPTER 165 ZONING REGULATIONS, 2025

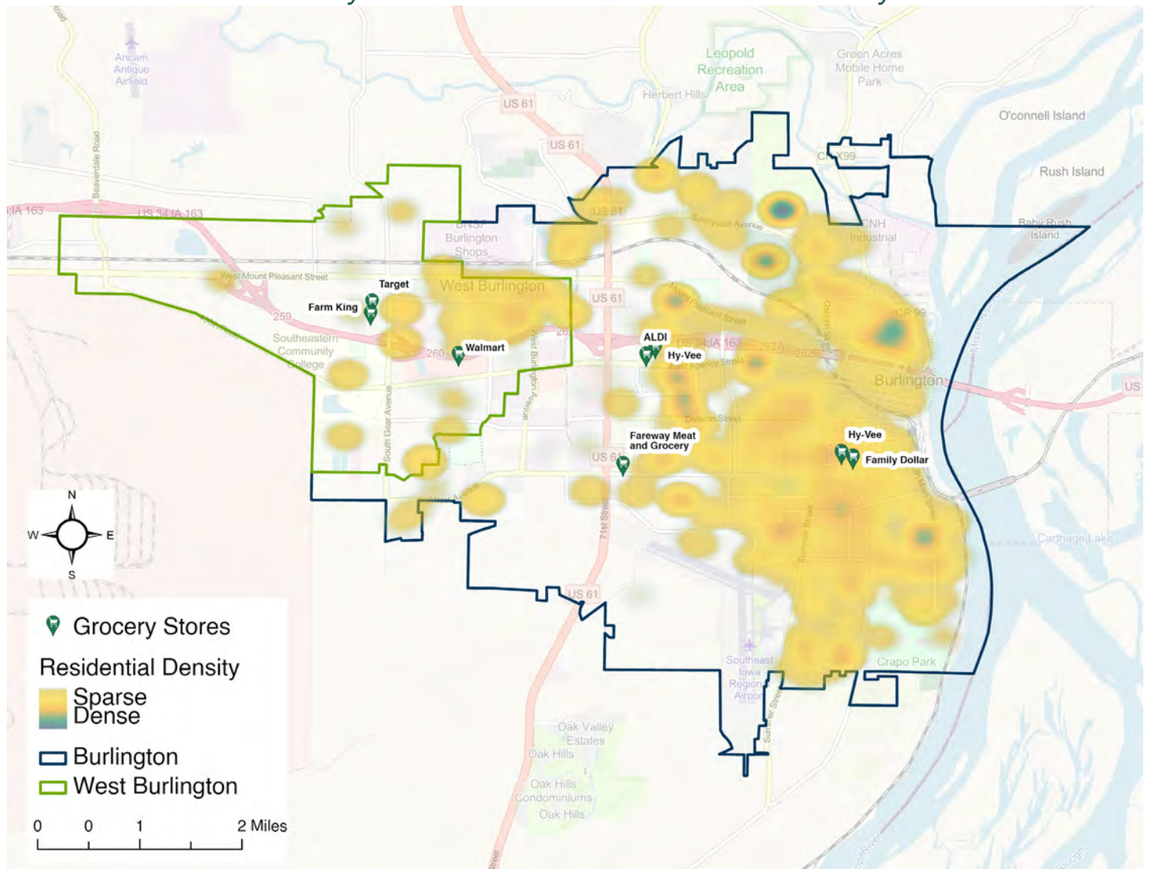
Additionally, density is also an important component of effective transit operation (Frank and Pivo et al 1994). Therefore, zoning code elements such as minimum lot sizes and setback requirements may present a barrier to multimodal access. Table 6 summarizes the current zoning standards for the City of Burlington and West Burlington:

While the setback regulations in Burlington are consistent across uses, these regulations in West Burlington are significantly higher that supports suburban scale development, pushing development farther away from the streets and reducing the opportunity to create walkable neighborhoods. Zoning restrictions in that manner often create land intensive development, limiting housing opportunities near the city center that eventually makes the public transit less efficient.

Community Feedback

At community engagement events, Burlington and West Burlington residents expressed a desire for easier access to destinations that are important to them. Given a map of the area, participants were given three stickers and asked to place them on the places they visit most often in town (other than their own homes).

Figure 18: Burlington and West Burlington Grocery Store Locations and Residential Density



Of the most popular destinations placed on the map, of which included several shopping and recreational facilities, few were located within current residential neighborhoods. This suggests that the most important services in the community are not located within walking distance of residences.

During focus groups held on March 1st, 2025, at the Burlington Public Library, community members expressed interest in development that promoted greater accessibility of goods and services throughout Burlington and West Burlington. Small neighborhood stores or services that fit with the surrounding building form were popular. Nine participants were asked what kinds of uses, if any, they would like to have closer to their residences. Several respondents stated an interest in seeing greater grocery store availability. Since the current land use code concentrates commercial development either in downtown Burlington or along major arterials, community members feel burdened by the distance of quality grocery stores from their homes, especially those from Burlington's southside neighborhoods.

This desire for services must be matched with the desire for commercial services to match the neighborhood character. Neighborhood-scale grocery stores and other small-scale services such as laundromats and convenience stores fit this bill. Despite residents expressing the desire for services within their neighborhood, these uses are not permitted in residential zones in Burlington or West Burlington.

Surface Parking

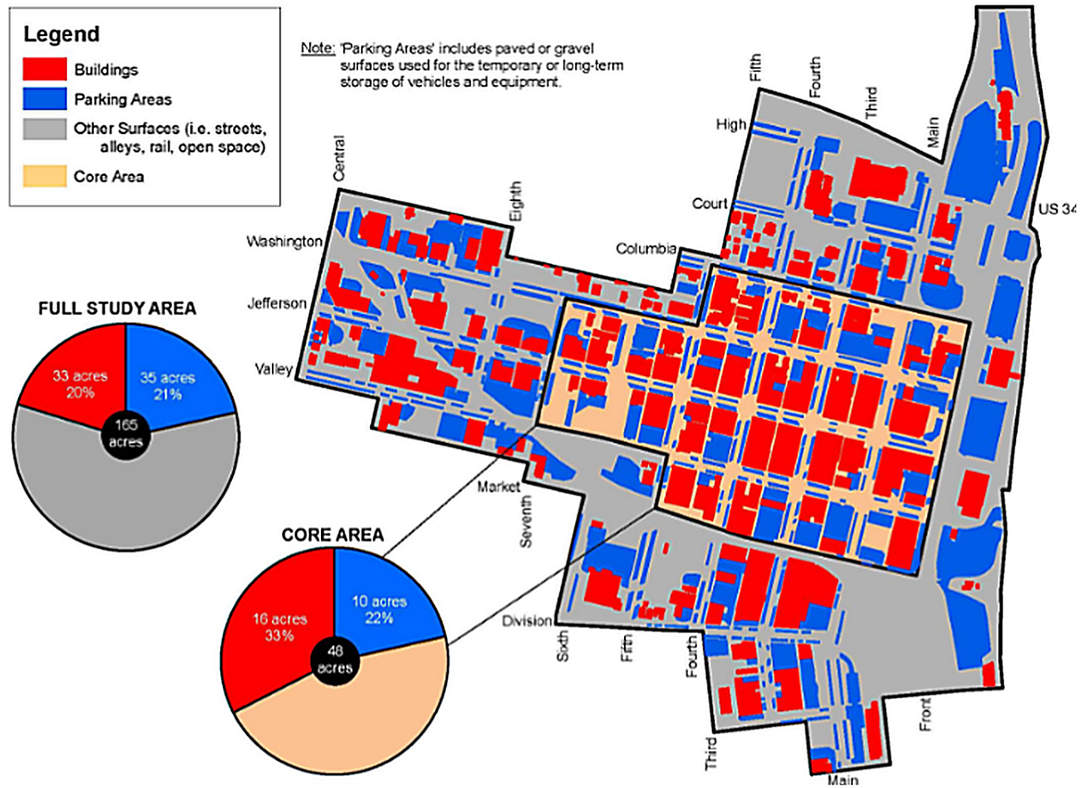
The City of Burlington offers three hours of paid on-street parking throughout most of its downtown, with a two-hour limit on Jefferson Street. Parking is enforced from 8 am to 5pm on weekdays. On-street parking is free throughout the rest of the two cities. (Burlington, Downtown Parking, 2025), (West Burlington, CHAPTER 79 PARKING REGULATIONS, 2025).

Figure 19 Aldi of Agency Street Parking Lot

Figure 20: Burlington Riverfront Parking Lots

Downtown Burlington has a significant number of parking spaces for a city its size. This oversupply of parking is magnified by more land downtown being dedicated to parking at 21% than buildings at 20% of downtown land. Most parking spaces were found to be vacant during the initial site visit conducted on September 27, 2024, during morning hours. This oversupply of parking was confirmed by Burlington's 2019 Parking Study, which found the combined average occupancy rates of the riverfront lots to be just 30 percent, indicating an oversupply of parking.

Figure 21: Downtown Burlington Land Utilization



Burlington (2019)

This issue is not limited to downtown Burlington. Along Highways 34 and 61, big box retailers and strip malls each contain parking lots equivalent to or larger than the building it supports. These were observed to be mostly empty during the initial site visits and subsequent visits. These largely unused parking lots affect the cohesiveness of the town's landscape and create larger physical distances between places.

Table 7: Burlington and West Burlington Parking Minimums.

	Burlington	West Burlington
	Minimum Parking Requirements	
Residential	1.5-2 spaces per unit	1-2 spaces per unit
Commercial	1 space per every 150-300 sf GFA	1 space per every 150-250 sf GFA
Institutional	Medical: 1 space per every 4 beds School: 1 space per 3 classrooms	Discretionary

Burlington, Code of Ordinances, 2025 and West Burlington, CHAPTER 165 ZONING REGULATIONS, 2025

The commercial parking minimum in both cities mandate parking that is ultimately underused. This may exacerbate car dependency and reduce walking and biking opportunities, as research has suggested the presence of parking lots is negatively correlated with walkability indicators (Leadbetter et al 2024). Additionally, land that is used for parking may be more valuable to the community when converted and used differently, something that cannot take place unless minimum requirements are changed.

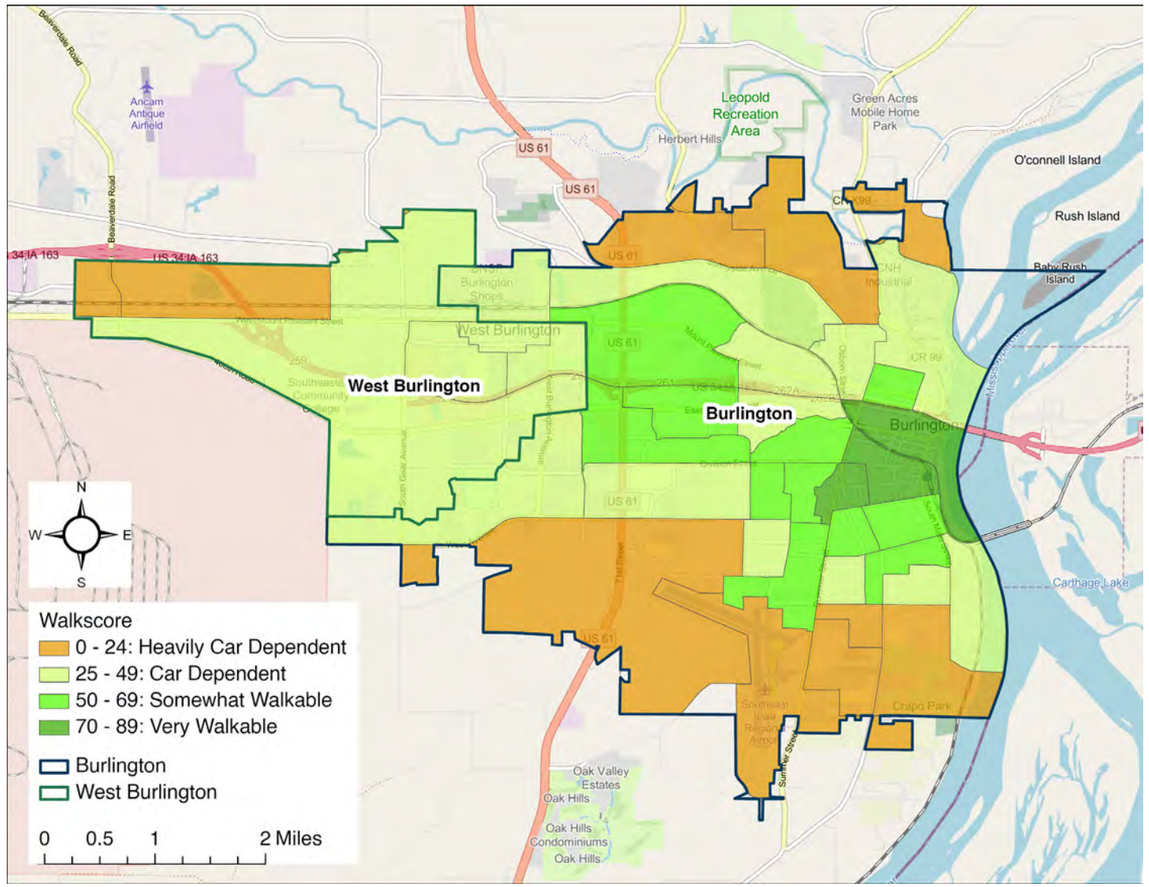
Walkability

Walk Score offers a measure for walk accessibility analysis which evaluates an area's walkability using an index from 0-100. Higher scores represent a greater number of trips that can be taken by walking in a particular neighborhood. The land use-related criteria represented in the index are:

- ***Average block length***
- ***Intersection density***
- ***Amenities within 5-minute walk***
- ***Amenities within 30-minute walk***
- ***Population density***

Downtown Burlington had the highest walk-score within the two cities, with adjacent census tracts to the west and north qualifying as somewhat walkable. Walk scores decrease as the distance from downtown Burlington increases, with the far southern and northern census tracts classified as heavily car dependent. West Burlington is classified as car dependent, further magnifying how separating land is used has a negative effect on walkability.

Figure 22: Burlington Riverfront Parking Lots



Downtown Burlington's walkability is by design and there are several zoning measures that allow for greater walkability. These code measures include:

- ***Mixed-use properties (C-3 Downtown mixed-use zoning)***
- ***Greater housing density (R-4 multifamily residential zoning)***
- ***Greater permitted lot coverage***
- ***No minimum lot size***
- ***Smaller minimum parking requirements***

Implementing these measures in other neighborhoods can give property owners the flexibility to increase housing variety and bring small-scale commercial developments to neighborhoods, increasing the feasibility of multi-modal transportation.

Land Use Takeaways

The changes in the land use most conducive to multimodal access in Burlington and West Burlington mainly consist of providing more flexibility for denser, mixed-use development through changes to the existing zoning ordinances.

1. Accessibility of jobs and services can be increased by expanding permitted commercial and institutional uses in residential areas.

2. Allowing higher density development can increase the number of destinations available to community members by walking.

3. Decreasing minimum parking requirements may open valuable space for other uses and improve pedestrian access.

TRANSIT

Transit is an integral part of a city's transportation network. A well-constructed and reliable transit system allows residents to travel to key destinations that might be too far for active transportation to cover. For those that do not have access to a personal vehicle or have physical disabilities, transit might be the only inexpensive way to travel within both communities.

Highlights of Transit Barriers

Burlington Urban Service (BUS) provides both deviated fixed-route and demand response services to Burlington and West Burlington. Southeast Iowa BUS (SEIBUS) also serves both communities by connecting residents to the surrounding counties and Iowa City through a demand-response service. The pandemic and private Medicaid has caused a sharp decline in ridership for BUS since 2020 which has yet to recover. Despite this drop in ridership, residents in both communities have expressed a desire and need for a reliable transit service. At both fall community engagement events, 13% of respondents stated transit as their preferred way of getting around the community. Several areas of improvement are based around the following issues:

- *Reliability and System Confusion*- BUS's deviated-fixed route system does not run on a schedule, making it difficult to plan trips. Community members stated confusion with the current system.
- *Lack of Infrastructure and Presence:* Currently, there is limited to no signage for BUS throughout both communities. Those waiting for a BUS cannot be sure if they are in the right place and the lack of signage for BUS throughout both cities means many community members do not know the transit system exists.
- *Limited Hours:* One of the biggest frustrations from community members was the limited service hours. Most fixed routes are now offered in the morning, while other fixed routes end at 3:10. Demand-Response service ends at 5:40 pm, leaving some residents without reliable transportation in the late afternoon and early evening.

When compared to other similar transit agencies in Iowa, Burlington was found to lag in efficiency. This is most likely due to the deviated-fixed route system structure, which increases operating costs.

Current Local and Regional Transit Access

The City of Burlington currently provides transit services to Burlington and West Burlington through Burlington Urban Service (BUS). BUS operates six deviated fixed routes and a demand response service. While the demand-response service begins as early as 4:30 AM and ends as late as 5:40 PM, fixed routes only operate between 6:45 AM and 3:00 PM. BUS has a contract with the Burlington Community School District to transfer students who live within one to three miles of their school.

BUS has relied heavily on federal funds to maintain operations. These covered 74% of its operating expenses in 2023 and typically fund capital costs in years where larger investments are made. The rest of the budget comes from the state and local levels. While BUS has seen an increased reliance of federal funding through the last five years, those contributions may begin to decline due to waning COVID-19 relief funds.

BUS ridership has decreased since the pandemic from 198,243 riders in 2019 to 119,713 riders in 2023. Much of this decline can be attributed to Medicaid switching from funding bus passes for recipients to providing individualized rideshare services instead. Regaining ridership will require creating a more convenient, understandable, and attractive service for Burlington and West Burlington residents.

Due to the nature of the deviated fixed route system, there was an observed lack of infrastructure for passengers waiting on a bus. Transit infrastructure includes benches, trash cans, wayfinding and shelters to make for a more comfortable experience. Some of these features can help increase transit ridership. Bus shelters, for example, have been found to balance ridership losses on days with precipitation (Miao e.t Al, 2019). Wayfinding signs can help riders understand routes and wait times, while benches provide riders with an opportunity to sit while they wait for the bus.

Fare System and Utilization

The transit service collects fares with cash or with bus passes which can be purchased at the Public Works facility. BUS offers a variety of prepaid passes for longer periods of time, including monthly and annual passes. These passes offer users a chance to have discounted fares compared to paying each time they ride on BUS. Note that each fare comes with one free transfer.

Table 8: Current BUS Fare Structure

Fare Type	Price ($)
Single Ride	$1.25
5 Tokens (5 Rides)	$5.00
Half-Month Pass	$15.00
Full Month Pass	$25.00
6 Month Pass	$125.00
Year Pass	$200.00

Three fare categories stood out with the highest utilization from 2019-2023. The monthly pass proved to be the most popular in the community, with 39,025 rides per year from 2019-2023. School passes followed with 33,533 rides, while cash fares represented just over 20,003 rides. The high number of monthly and school pass rides suggests many riders are frequent BUS users. By contrast, fare types such as Disabled Annual (101 rides) and Disabled Free (220 rides) represent minimal usage, suggesting barriers or limitations in service accessibility.

These categories collectively dominate ridership, indicating a strong reliance on regular commuters and students. These insights provide an opportunity to evaluate pricing strategies, enhance inclusivity, and explore potential outreach to underrepresented groups.

While Burlington sees relatively consistent ridership across each weekday, the school year has a major impact on ridership. June, July, December and January all have significantly lower ridership levels than other months. Detailed seasonality and ridership levels by day of the week can be found in APPENDIX L.

Table 9: Current BUS Ride Type by Ridership

Ride Type	Ridership
Monthly Pass	39,025
School Pass	33,538
Cash Fare	20,003

Regional Transit Access: SEIBUS

Southeast Iowa BUS (SEIBUS), operated by the Southeast Iowa Regional Planning Commission, compliments BUS by providing a demand response service that connects residents to Des Moines, Henry, Louisa, and Lee counties. SEIBUS also travels to Iowa City for medical appointments. Riders must call to schedule one-way or roundtrips at least 24 hours in advance. SEIBUS also travels to Iowa City, a major medical hub in the region. SEIBUS is exclusively offered on weekdays with hours between 9 AM and 3 PM in most counties. Pricing is based on one-way tickets and is dependent on trip type.

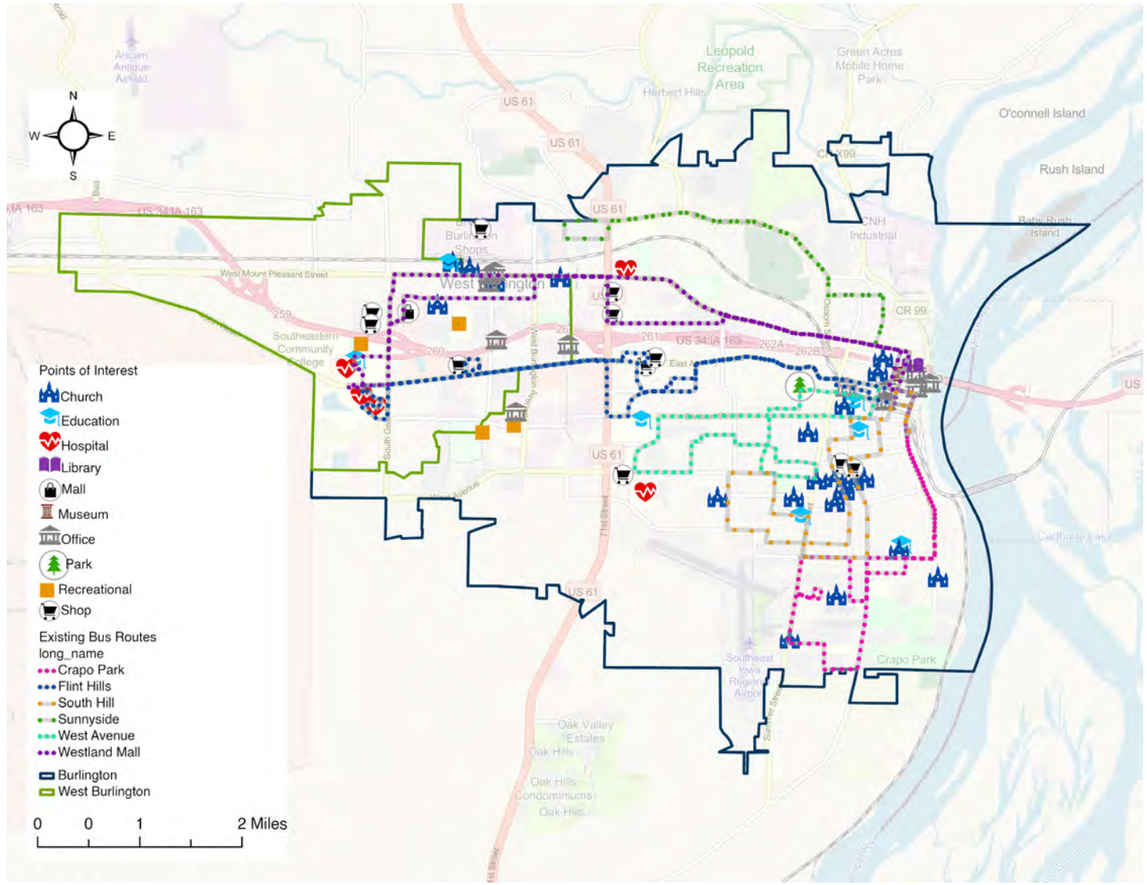
Table 10: SEIBUS Fare Type and Cost

Fare Type	Cost
One Way (In Town)	$2.50
One Way (Regional)	$5.00
Monthly Pass	$25.00
SE Iowa to Iowa City or CID (Roundtrip)	$30.00
Burlington to Iowa City or CID (One-way)	$15.00

Current Deviated Fixed-Route System and Ridership

Figure 23 shows the six different deviated-fixed routes offered by BUS. The route network offers wide coverage, with most of Burlington and West Burlington covered by BUS. Each of these routes converge into downtown Burlington, the main area where transfers take place. While these are designated routes, buses may deviate from their route to pick up passengers. Within each route, there are no set stops, and passengers can be dropped off anywhere along the route. While this component may allow for some residents not along the route to receive coverage, it leads to unpredictability. There is currently no way for riders to know how long they will wait for a bus to pick them up, which leads to uncertain travel times. The uncertain travel times may cause some users to travel within Burlington and West Burlington through a different mode of transportation if possible.

Figure 23: Current BUS Deviated-Fixed Route Offerings



Using data from 2019-2023, the annual ridership was averaged yearly over the five-year period for each route. Flint Hills was the most popular route, likely due to its service to critical nodes along Agency Street in Burlington and West Burlington. South Hill, which serves a dense residential area southwest of downtown Burlington, closely follows. The lack of variation between the top five routes suggests demand throughout the study communities.

Table 11: Existing Routes by Number of Rides

Route	Rides
Flint Hills	718
South Hill/Shuttle	356
Sunnyside	557
Westland Mall	337
Crapo Park	804

Community Feedback

Transit access demonstrated interest from community members who participated in community mapping and survey activities at tabling events. At both the Burlington High School football game and the Downtown Trick-Or-Treat event, 13% of respondents indicated public transit as their ideal way to get around town. Despite this, fewer than 1% of residents in the planning area commuted by transit according to 2022 American Community Survey data. This gap between interest and usage was explained in several of the March focus groups, where many respondents expressed a desire to use transit, but currently did not. Reliability was a common deterrent, with one resident saying, “It’s complicated just to get picked up by a bus, it feels like you need to plan a day ahead.” This unreliability has caused people to rely on others for rides, or even use local taxi services, which typically offer much more expensive fares than the BUS system.

The limited-service hours, particularly during the evening, are a burden for some residents. “I have a friend in assisted living who, if she has anything to do past 4, she can’t get home. She can’t use the bus and can’t afford the $14 taxi fee since it’s a second zone from downtown.” In this and several other stories told during the focus groups, the lack of reliable service placed financial and social burdens on those without personal vehicles.

These concerns reflect responses from initial community engagement events. 17% of responses at the football game event and 7% of responses at the Trick-Or-Treat event were related to transit. Increased bus frequency, more convenient routes, and expanded service hours were prevalent within those desired changes.

Transit Analysis

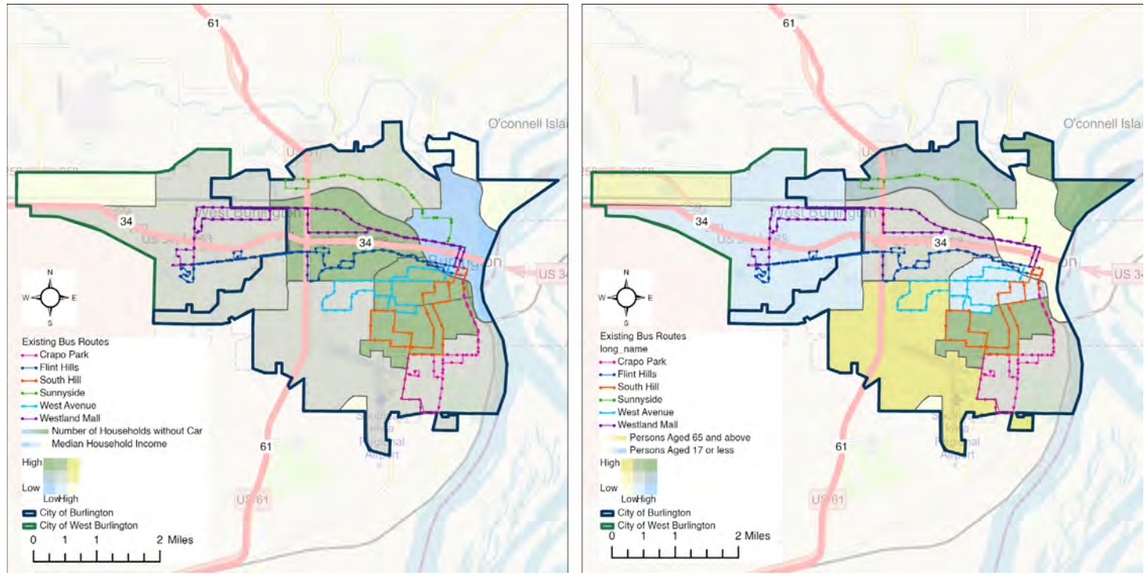
Service Priority Areas

Throughout the United States and Iowa, certain demographic groups are more likely to use or require public transit. These include youth, seniors, those with lower income levels, and those without private automobile access (Pew Research, 2016). Considering these variables, an analysis was conducted to determine which parts of Burlington and West Burlington might demand transit services the most.

The first map considers median household income and vehicle availability levels, while the second focuses on the distribution of residents by age in both communities. Both maps are measured at the census tract level and have bivariate outputs.

Census tracts three, four and five indicate the potential to have the highest level of service demand due to having the lowest vehicle ownership and median income levels. However, most census tracts have either low automobile ownership levels or a lower median household income, indicating a need for transit that serves the whole community. Census tracts three, five, six, and ten had the highest levels of youth and seniors, showing some overlap between the two different maps. These areas should be served and prioritized by BUS, especially if any system changes are to take place.

Figure 24: Burlington and West Burlington Transit Service Analysis



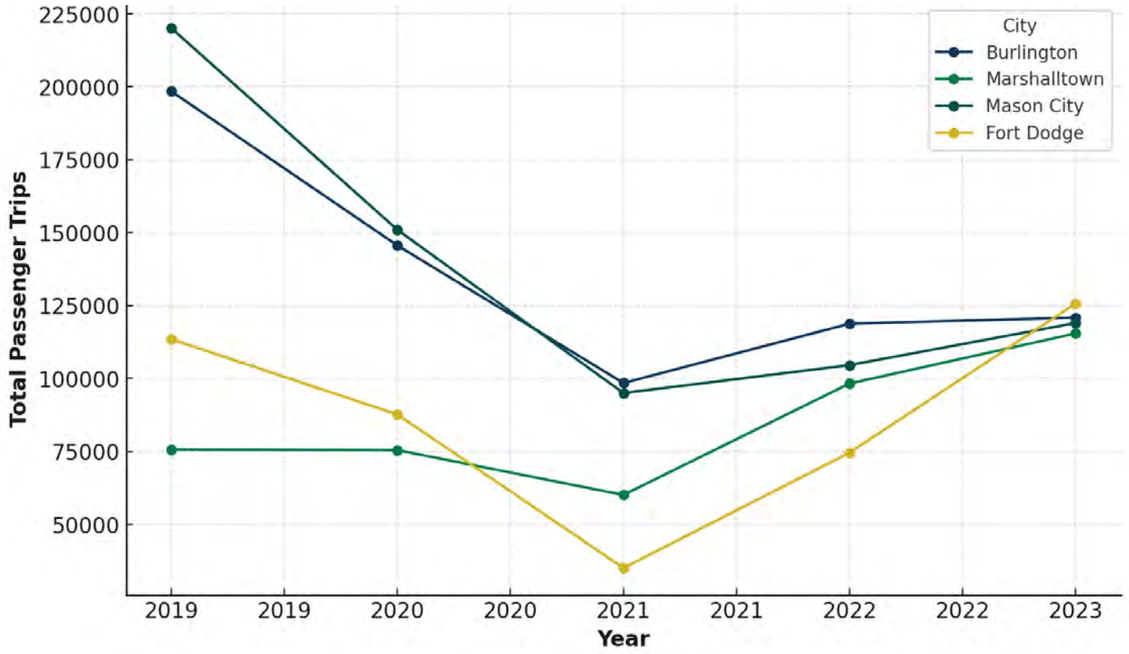
Peer Transit Analysis

An analysis of BUS and several peer agencies from Iowa was conducted to better understand the performance of the current system. Each variable was analyzed over a five-year period (2019-2023) with data reported by each agency to the Integrated National Transit Database. The selected peer agencies were Mason City Transit, Dodger Area Rapid Transit, and Marshalltown Municipal Transit. Each transit agency serves similar populations within Iowa, has similar budgets and offers similar services to BUS. These trends in current performance can assist in formulating recommendations for future service improvements.

Ridership by Agency

Unlinked passenger trip data from 2019 to 2023 reveals ridership variation among transit agencies. While Burlington/West Burlington and Mason City have yet to recover to pre-COVID ridership levels, Marshalltown and Fort Dodge saw ridership growth in 2023 compared to 2019. This has eliminated the large ridership variation between the four transit agencies, as all four agencies were within 7,000 unlinked trips in 2023. The increased demand for transit in other Iowa communities suggests there could be room for Burlington to attract more riders with an improved service. Adjusting service frequencies to reflect the post-pandemic ridership levels could enhance operational efficiency and better meet the needs of current users.

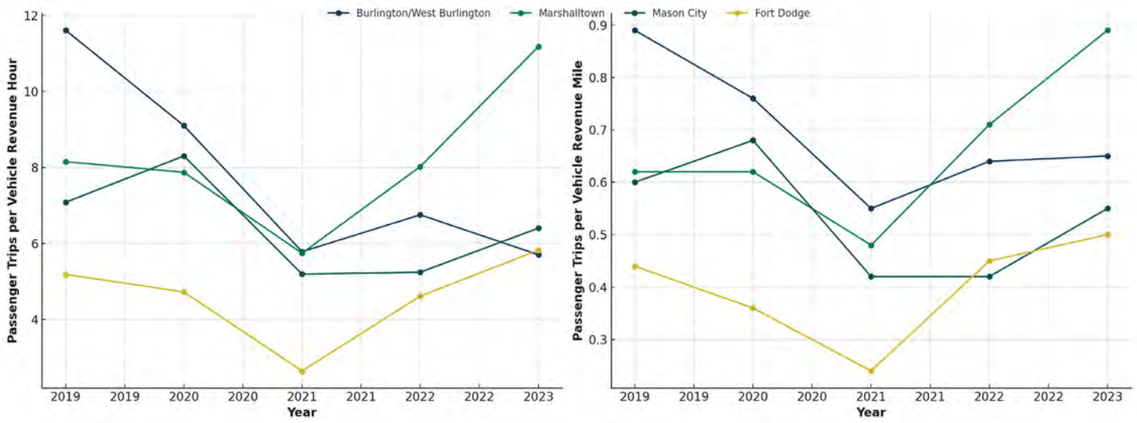
Figure 25: Peer Agency Analysis Ridership Trends: 2019-2023



Service Efficiency Measures

Passenger trips per vehicle revenue hour and mile can provide insight on service efficiency. Since 2019, BUS has seen a decline in both measures, indicating less ridership per hour of service provided or mile travelled. expenditure with the city's revenue. While Mason City Transit has nearly recovered its efficiency levels since 2019, Fort Dodge and Marshalltown have both increased in efficiency since 2019, especially Marshalltown. While Burlington still performs comparibly to other similar transit agencies, an improved service that attracts more riders and targeted route and service selections can help BUS save on operational expenses.

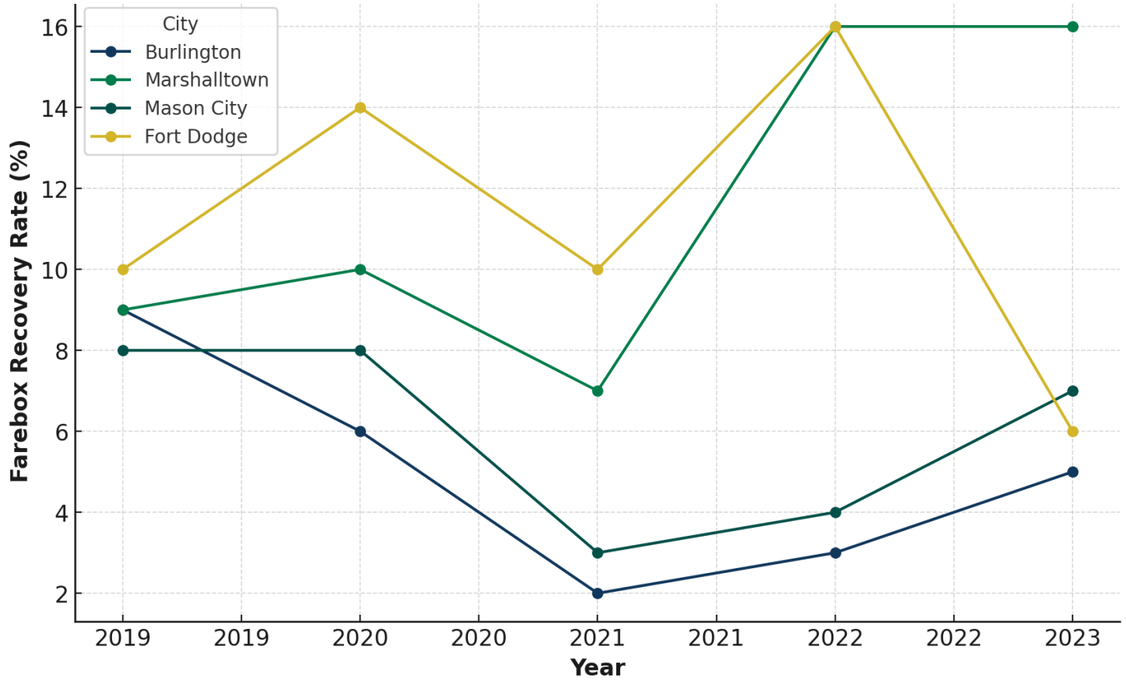
Figure 26: Peer Transit Agency Efficiency Analysis: 2019-2023



Farebox Recovery Rate

Farebox recovery rate provides information on the financial sustainability of transit services. The farebox recovery rate is defined as the ratio of fare revenue to the operating expenses of the transit system, effectively measuring the extent to which a transit agency can cover its costs through fares alone. Over the examined period, Burlington's farebox recovery rate fell dramatically from 9% in the pre-pandemic period to under 2% during COVID-19. While this number has jumped to over 5% in 2023, it still lags between the three peer agencies. This decline contrasts with the performance of Marshalltown, which improved its recovery rate from 2019 to 16%. With the need to rely more on state and local funds, implementing effective pricing strategies will be important to maintain a functioning transit service in Burlington and West Burlington.

Figure 27: Peer Transit Agency Farebox Recovery Rate Analysis: 2019-2023



Transit Takeaways

By analyzing the current system structure and usage, gathering community feedback, and visualizing areas with the highest need and comparing BUS with other similar transit agencies in Iowa, several trends with the current service emerged.

1. Many community members felt confused by the current transit system and felt it was not reliable and easy enough to use. Some residents were negatively affected by the limited-service hours. While there was a desire and need for community members to use transit, the service being provided has not been adequate to capture this demand.

2. Burlington Urban Services has seen a decline in ridership and efficiency measures since 2019, which differs from several peer agencies such as Marshalltown who have improved in several measures since 2019.

3. Current ridership trends and population data suggest there is a need for transit throughout Burlington and West Burlington, meaning routes should be present in each region of the service area.

IMPLEMENTATION FRAMEWORK AND CONSIDERATIONS

To more effectively implement the recommendations informed by analysis and community feedback, a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis and stakeholder analysis was conducted. The SWOT analysis looked at broader community and state trends that could assist or inhibit recommendations. Meanwhile, the stakeholder analysis identifies relevant groups that can facilitate or be affected by changes that should continue to be involved in the planning process. Finally, the scope of intervention reaffirms TOP's overarching goals that are seen in the recommendations.

OBSTACLES AND OPPORTUNITIES OF IMPLEMENTATION

A SWOT Analysis was conducted for Burlington and West Burlington, Iowa after initial research and conversations with the community partners. Initially, the analysis considered a broad range of factors, both local and national, that might affect the transportation network and residents' ability to travel around both cities. The finalized analysis is divided into two sections: major opportunities and major obstacles. Major opportunities consider community characteristics and broader trends that the solutions within this report look to capitalize on, while major obstacles focus on potential limiting factors when creating solutions for both Burlington and West Burlington.

Major Opportunities

GRIDDED STREET NETWORK: Most of Burlington and parts of West Burlington are part of a singular gridded street network that is a product of development occurring in the early to mid-20th century. As a result, most of Burlington has high levels of connectivity. The short blocks and direct network increase the ease of use for pedestrians, cyclists, and vehicles which could lead to lower costs in transit and other infrastructure improvements.

ROBUST RECREATIONAL FACILITIES: Burlington and West Burlington are home to many green spaces, including neighborhood and community parks. Most parks in Burlington serve the east side of town, including the state-of-the-art Dankwardt Park. West Burlington is home to several of its own parks and recreation facilities, including the RecPlex. The RecPlex serves as a sports and recreational hub for the region and features many soccer, volleyball and baseball fields. TOP aims to make these amenities more accessible to all community members.

MAJOR EMPLOYERS: Burlington and West Burlington are home to several anchor employers that serve the community. The Southeast Iowa Regional Medical Center is a major healthcare hub for the region, while the manufacturing sector has many long-standing employers and a new Amazon facility. West Burlington is home to many major retailers and Southeast Iowa Community College is a post-secondary education anchor in the region. TOP seeks to further strengthen the employment opportunities in Burlington and West Burlington by linking people to jobs and opportunities within the area.

DOWNTOWN REVITALIZATION EFFORTS: Burlington has made a recent effort to revitalize its downtown. There is a growing number of local shops and restaurants along its primary commercial corridor, and streetscaping projects on Jefferson have further improved the pedestrian experience. Several recent Burlington plans looked to capitalize off this momentum and improve the city's vitality over time. TOP looks to give residents improved access to amenities and jobs in Burlington's main business district.

IMPROVING HEALTH AND WELLNESS CULTURE: A growing national trend is the focus on improving individual health. This relates to a major benefit of active transportation: physical activity. Although not all trips can be taken without an automobile, communicating the benefits of active transportation could convince some community members to use active modes when possible. This could increase usage of sidewalks, cycling infrastructure and other active transportation infrastructure.

Major Obstacles

Understanding the obstacles of implementation is just as important as understanding the strengths of the areas. Understanding the obstacles will allow TOP to consider recommendations that consider these issues.

LIMITED FUNDING: Burlington and West Burlington both face population decline and stagnant economies. As a result, both cities draw from a declining tax base year by year. This means cities must prioritize and focus on urgent needs and may not have sufficient funds to be able to complete large scale improvements. Subsequently, new state legislature will likely reduce the already-limited property tax revenue both cities can draw from. As a result, this plan seeks to identify national funding where possible to make these changes fiscally feasible.

RELIANCE ON PERSONAL VEHICLES: The broader trend across the United States of personal vehicle reliance is also seen in both Burlington and West Burlington, where 83 percent of commutes were taken using an automobile. This behavior pattern can be difficult to break, so public education and feasible transportation alternatives must be presented to receive public buy-in.

CURRENT LAND USE PATTERNS: Like many other American cities, Burlington and West Burlington consist of land use patterns that separate residents from both employment and activities. The longer physical distances make it more difficult to implement alternative forms of transportation that are more attractive within more condensed cities. While the adaptation to separate land uses can be sudden, reversing this is a longer process. A more flexible code can begin the process of allowing more use mixing in both communities.

BURDEN OF SIDEWALK MAINTENANCE: Median household incomes in both Burlington and West Burlington fall well below the state of Iowa average of $73,147 (ACS, 2022). While both cities currently offer sidewalk assistance programs, many residents might be unable to foot a portion of maintaining adjacent sidewalks. Subsequently, new case law within the state of Iowa might shift the liability of sidewalks onto municipalities, per Bankers Trust Company v. City of Des Moines (State of Iowa, 2024). While this case is still ongoing, it is worth monitoring.

COORDINATION BETWEEN CITIES: Burlington and West Burlington function as one city, with residents in both cities travelling across jurisdictional lines for work and other activities. Because of this, it can be difficult to assign the burden of certain projects. While this plan aims to align transportation goals of both cities, the plan will look to specify which city is targeted within each recommendation and will call out coordinated planning efforts when necessary.

Stakeholder Analysis

Effective planning is dependent on understanding and integrating the perspectives of those impacted by the plan. TOP conducted an initial stakeholder analysis to identify individuals and groups affected by transportation and transit improvements in Burlington and West Burlington. Stakeholders were categorized based on their level of impact and involvement:

1. Key Stakeholders – High influence and essential to project success.

- Residents and commuters of Burlington and West Burlington
- Neighborhood associations
- City governments of Burlington and West Burlington
- City departments, including Planning & Zoning and Public Works

2. Primary Stakeholders – Most directly affected by the plan's outcomes, positively or negatively

- People who walk, bike, drive, and use transit in the cities
- Local businesses
- School districts: Burlington CSD and West Burlington ISD
- Burlington Urban Service (BUS) riders and staff

3. Secondary Stakeholders – Indirectly affected, but still relevant

- Community organizations such as Downtown Partners, Young House Family Services, Milestones Area Agency on Aging
- Nearby communities and Des Moines County
- SE Iowa Regional Planning Commission (SEIRPC)

4. Tertiary Stakeholders – Limited or long-term impact:

- Iowa DOT, FHWA, and other state/federal agencies
- Advocacy groups such as Iowa Bicycle Coalition
- Nonprofit and environmental organizations with regional focus

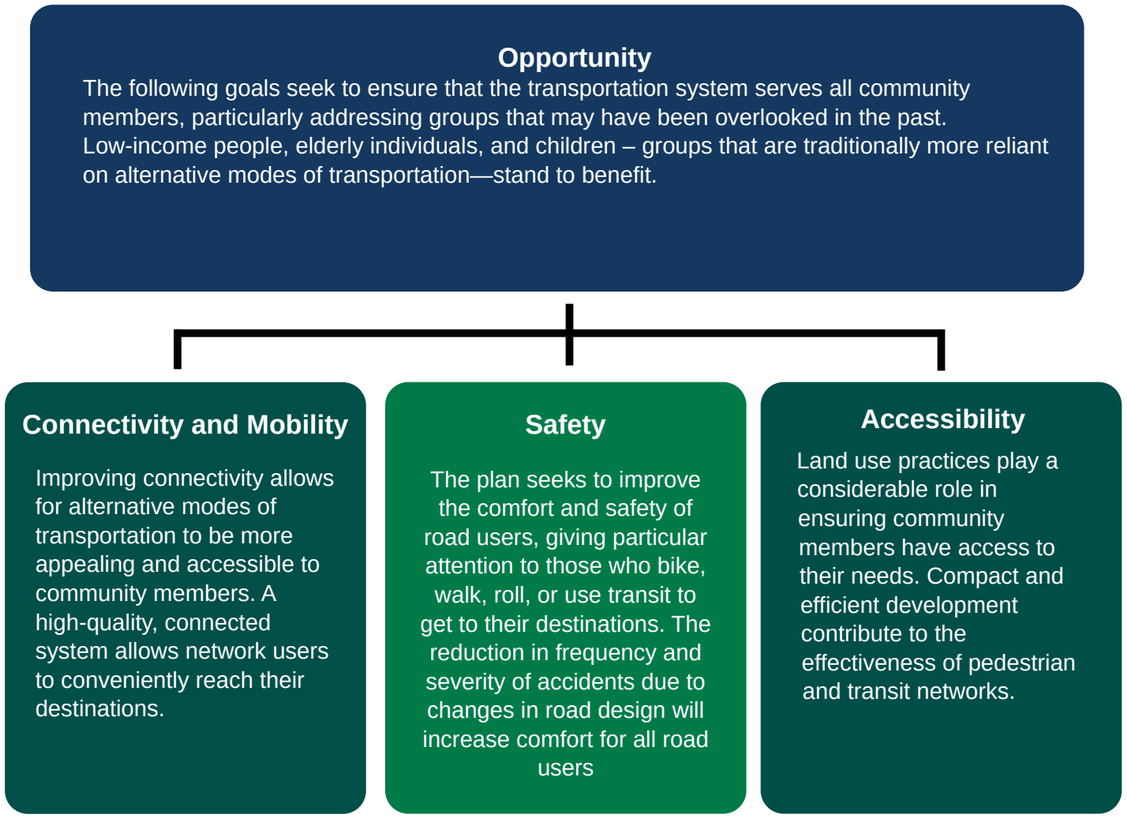
Past planning efforts have been made for and heavily influenced by key stakeholders. By engaging with community members that will be affected the most by this plan, TOP considered the needs and gained direct feedback on recommendations from primary stakeholders who did not receive as much control in previous planning processes.

Scope of Intervention

TOP seeks to address barriers in the pedestrian and transit networks while allowing land use regulations that can increase connectivity throughout Burlington and West Burlington. Each section analyzed in the plan contains a corresponding set of recommendations. These recommendations are clearly laid out with steps for implementation and measures of success. Each measure contains estimated costs and an implementation timeline to better inform city officials of each recommendations needs. Residents of both communities had the chance to provide input on recommendations through the open house event in April, which informed the prioritization of the recommended actions.

To ensure effective implementation, TOP incorporates specific principles into its analyses and recommendations. Connectivity, mobility, safety, and accessibility are all important components of a transportation system that ultimately achieves opportunity: the ability of all people in Burlington and West Burlington to access their daily needs.

Figure 28: TOP Guiding Principals



RECOMMENDED ACTIONS

To address issues identified through analysis, community engagement and observations, the following recommendations have been written to provide actionable projects, next steps, and long-term goals for the community. Each recommendation seeks to address transportation barriers in the community, as identified in previous sections. These recommendations and their prioritization were informed by community feedback received at an open house event (Further details on the open house provided on page 67 of the appendix). Each recommendation includes a time frame and a relative cost. These parameters are defined in Table 12 below.

While each recommendation includes an estimate of relative costs, staff time and costs have not been factored into this estimation. The costs as follows are primarily for infrastructure and other capital costs required, as staff costs may vary widely based on grant application status, season, and grant type.

Table 12: Time Frame and Cost Estimate Key

Time Frame	
Short Term	Less than 1 year
Medium Term	1 – 5 years
Long Term	More than 5 years
Cost Estimates	
$	Less than $100,000
$$	$100,000 - $250,000
$$$	$250,000 - $1,000,000
$$$$	More than $1,000,000

Pedestrian Infrastructure Recommendation 1: Demonstration or Quick-Build Projects

Time Frame	***Relative Cost*** *(1) (2)*
Short Term	$

Issue

Many areas in the community lack sufficient and safe pedestrian infrastructure. While problem areas or intersections in need of improvement can be identified with relative ease, the costs and long timelines of street reconstruction projects often pose barriers to communities improving pedestrian infrastructure.

Solution

Demonstration, or quick-build projects, are short-term installations that allow community members to benefit from changes to street design for a low-cost and little to no waiting for installation. Implementing these projects can be a great way to test a solution and allow for evaluation at a location before a permanent project is suggested. These projects also work to build community support and increase understanding for road design changes.

Implementation

1. **Determine location in need of improvement**
   - Decide on goals of the project (ex. Slowing vehicular traffic, improving crossings for pedestrians, building community support for an upcoming project, etc.)
2. **Visit site**
3. **Document pre-existing conditions**
   - Crash history
   - Needs identified by community members (i.e. it is difficult or uncomfortable for children to cross a street to reach a school)
   - Intersection characteristics (ROW width, curb face to curb face width, curb ramp presence, existing paint or signage, etc.)
4. **Discuss and determine improvement/project type based on the goals of the project**
   - As city officials
   - With impacted community members
5. **Install project**
6. **Gather community feedback and input**

Evaluation

Because these are short-term installations that look to build support for and experiment with potential improvements, the main method of evaluation is community feedback. This feedback can be collected by the posting of a QR code to a survey at the site, staff engagement with users at the installation site, or posting the survey to city sites and social media channels.

Potential Funding Sources:

Safe Streets and Roads for All (SS4A) grant program, Bloomberg Philanthropies Asphalt Art Initiative, AARP Community Challenge Grant

1) $100 - $10,000 (MnDOT)
(2) $5,000 - $15,000 (Transportation for America)

Case Study: Demonstration Projects

Demonstration, or quick-build projects, are short-term installations that are intended to allow community members to benefit from and experience changes to street design for a low cost with little to no waiting for installation. Projects can vary in type, from curb extensions/bulb outs (see Figure 29), to walking lanes, to traffic circles (see Figure 30). These projects are often installed with a goal of slowing vehicular traffic to allow for safer interactions between pedestrians and drivers at intersections. They also work to give pedestrians dedicated spaces on roadways, allowing for safer crossings and walking conditions. Implementing these projects can be a great way to test a solution to a problem in "real life" and allow for evaluation of a solution at a location before a permanent project is implemented.

Figure 29: Curb extensions and high-visibility crosswalk in Elgin, MN; Walking Lane in Warren, MN

Elgin, MN [population: 1,150 (US Census, 2023)]

Warren, MN [population 1,605 (US Census, 2023)]

Curb extensions work to bring pedestrians further out from the curb, making them more visible to drivers. They also narrow the travel lanes, making crossing distances shorter and slowing vehicle speeds. They also increase turning radii, slowing vehicles as they turn.

Walking lanes are a quick way to create a designated space for pedestrians to walk. This project may be useful in areas without sidewalks and wide street right of ways (ROW). While not permanent, walking lanes are a lower cost way to create a safer space for pedestrians.

Traffic circles are installed at intersection locations to slow traffic. These can be as simple as a raised plastic circle or as complex as the picture above, which includes planter boxes. Slowing traffic at intersections can improve the safety of pedestrians crossing.

Figure 30: Traffic Circle in Minneapolis, MN

Standish Neighborhood, MN, [neighborhood population: 6,625 (US Census, 2020)]

Pedestrian Infrastructure Recommendation 2: Sidewalk Inventory Update

Time Frame	***Relative Cost***
Medium Term	$

Issue

Many sidewalks in Burlington and West Burlington are deteriorating and face inconsistent maintenance with no systematic record of conditions. Without a comprehensive assessment, it is difficult to prioritize repairs or engage property owners effectively. This is crucial now that cities in Iowa are liable for injuries on city sidewalks where owners were not notified of the need to make repairs.

Solution

A sidewalk inventory and prioritization system that assesses sidewalk conditions by parcel, standardizes ratings (Excellent/Good/Fair/Poor), and identifies ADA compliance issues and safety hazards. This foundational tool will guide city investments, property owner notifications, and future planning, repairs, and outreach.

Implementation Steps

1. **Inventory Update**
   - Collect data on:
     - *Street, Side of Street, Parcel #, Property Owner, Frontage (feet)*
     - *Panel condition: Total panels, cracked panels, gaps over threshold, and those needing replacement*
     - *Surface type, ROW tree presence, inspection date, and notification fields*
2. **Quality Rating Framework**
   - Use formula: Panels Needing Replacement / Total Panels
   - Define thresholds for Poor, Fair, Good, and Great ratings
3. **Implementation Matrix**
   - Prioritize sidewalk segments based on Condition:
     - *Needs Replacement Now – Poor condition or ADA risk*
     - *Needs Replacement Soon – Fair condition*
     - *Excellent Quality – No immediate action needed*
4. **Integrate Notifications**
   - Add "Needs Notification" and "Notification Status" to database
   - Trigger outreach based on condition ratings and thresholds.

Evaluation

Evaluate success based on completion and accuracy of the inventory. Track the percentage of parcels with up-to-date sidewalk data, ensuring that at least 95% are fully assessed. Monitor whether standardized condition ratings (Poor, Fair, Good, Great) have been applied consistently across the network. Confirm that ADA compliance indicators are included in each record and that the prioritization matrix is being used to guide city decision-making. Evaluate how quickly property owners are notified following an inspection, with a goal of issuing notifications within 30 days. Assess whether the database is being updated annually and whether staff find the system easy to use. Optional public or staff surveys can help determine usability and identify opportunities for improvement.

Pedestrian Infrastructure Recommendation 3: Sidewalk Improvement Program

Time Frame	***Relative Cost*** [1]
Medium to Long Term	$$$

Issue

Many sidewalks in the study area are not well maintained, creating barriers to safe and accessible mobility. Many property owners lack the means or incentive to make repairs on their own.

Solution

A Co-City-Run Sidewalk Improvement Program funded through a property-based fee (similar to sewer or stormwater fees), using revenue to address high-priority repairs identified through the previously mentioned sidewalk inventory and prioritization matrix. The program will guide publicly funded improvements that enhance accessibility, safety, and connectivity—especially in underserved areas.

Implementation Steps

1. **Establish Annual Property Fee**
   - Equitable, stable funding source tied to infrastructure service
2. **Targeted Use of Funds**
   - Public and High-Priority Parcels
   - Low-Income Assistance Programs
   - Regular Inspections and Data Updates
   - Communication & Outreach
   - Mailed notifications, public dashboards, annual reports
3. **Coordinate with Implementation Matrix**
   - Use matrix rankings to determine repair schedule and spending priorities to ensure ADA compliance and equity are guiding principles

Evaluation

Measure effectiveness by tracking the amount of sidewalk area repaired annually and the percentage of “Poor” segments that receive repairs within one year of identification. Assess changes over time in the share of sidewalk segments rated “Poor” or “Fair,” with the goal of annual reduction. Evaluate the program’s equity impact by measuring the proportion of funds spent in underserved areas and the number of low-income property owners receiving assistance. Financial metrics such as revenue collected through the property-based fee and percentage of projects brought into ADA compliance should also be tracked. Annual reports and public dashboards should be reviewed to confirm whether information is being shared transparently, and outreach metrics should ensure residents are notified prior to construction activities.

Potential Funding Sources

Statewide Transportation Alternatives Set-Aside Program (For use in projects related to Safe Routes to School or major trail connections), Pedestrian Curb Ramp Construction Funds from Iowa Department of Transportation (DOT),

(1) $6.00–$9.50 per square foot, typical panel: $96.00–$152.00

Pedestrian Infrastructure Recommendation 4: Crossing Improvements

Time Frame	***Relative Cost***
Medium to Long Term	$-$$$

Issue

The safety and comfort of pedestrians and other non-vehicle users while crossing roads.

Solution

Where needed, install improvements to pedestrian crossings. These improvements can be stand-alone projects or a part of an already planned roadway reconstruction or resurfacing. [1]

Potential Crossing Improvements and Cost Estimates

1. **At crossing locations:**
   - High visibility painted crosswalks ($2,000 - $5,000)
   - Curb ramps ($700 - $1,000)
   - Overhead lighting ($3,500 - $5,000)
2. **At intersection locations:**
   - Signal improvements, such as a Leading Pedestrian Interval (LPI) ($0 - $3,000)
3. **At mid-block locations:**
   - Pedestrian Hybrid Beacons (PHBs) (or HAWK signal) ($50,000 - $130,000)
   - In-street “YIELD TO PEDESTRIAN IN CROSSWALK” signage
4. **At some crossing locations (Intersection or mid-block):**
   - Curb extensions ($10,000 - $40,000)
   - Pedestrian refuge islands ($10,000 - $40,000)
   - Signage at crossing location, “AHEAD” signage in advance of location (At some locations)

Implementation

1. **Identify crossing locations in need using crash data, community input and observed conditions.**
2. **Observe existing pedestrian behaviors:**
   - Crossing locations
   - Time spent waiting to cross (delay)
   - Crossing behaviors (crossing against the signal, while traffic is flowing, etc.)
3. **Determine necessary improvements**
4. **Explore upcoming projects**
   - Could pedestrian improvements be added into an existing project?
5. **Consider demonstration or quick build project in interim** *(see page 61)*
6. **Install project**

(1) Cost estimates provided by the Federal Highway Administrations Pedestrian Safey Guide and Countermeasure Selection Tool (PedSafe) (http://www.pedbikesafe.org/PEDSAFE/countermeasures.cfm)

Evaluation

If project or improvements were installed due to crash history, continue to monitor crash frequency and severity over time. Consider observing pedestrian behaviors at crossing location after installation to determine impacts or changes that could still be made.

Potential Funding Sources

Surface Transportation Block Grant (STBG) funds, and Transportation Alternatives Program (TAP) funds administered through SEIRPC.

Land Use Recommendation 1: Change Zoning Codes to Allow Mixed-Use Development

Time Frame	***Relative Cost***
Medium Term	$

Issue

Single-use zoning makes pedestrian access more difficult by separating residences from other uses.

Solution

Amend zoning use tables to expand permitted commercial uses within residential districts, with priority to uses that expand access to essential services and economic opportunity within neighborhoods.

Implementation Steps

1. Identify permitted uses (1-3 months): Define acceptable uses for each residential district, providing as much flexibility as possible for property owners without compromising neighborhood safety and wellbeing. Determine necessary permitting requirements for each new use. Priority uses to be added include:

- Low-intensity commercial: small-scale grocery stores, convenience stores, retail shops, and offices as primary uses
- Urban agriculture: on-site production and sale of plant agricultural products that do not pose a nuisance to the surrounding community
- Home occupations and accessory commercial units: Uses fitting into “limited commercial” that could feasibly take place within a home or accessory unit.

2. Pass amendments (1-1.5 years): Pass text amendments to zoning use tables, applying community feedback as necessary.

3. Community engagement (3-6 months): Conduct outreach to inform the public about the code changes, with special attention given to prospective entrepreneurs in socially vulnerable neighborhoods. Educate residents about the permitting process to set up a home or neighborhood-based business.

Evaluation

Track number of businesses that open in residential areas, with special attention given to those in socially vulnerable neighborhoods and those which provide essential services. Monitor Walk Scores on a neighborhood level.

Land Use Recommendation 2: Change Residential Zoning Codes to Allow Greater Housing Density

Time Frame	***Relative Cost***
Medium Term	$

Issue

Lower housing densities restrict the number of housing units near residents' daily destinations, such as services and transit stops, therefore making walk and transit access difficult.

Solution

Amend both city zoning ordinances to expand housing options in residential districts.

Implementation Steps

1. Identify Permitted Housing Types (1-3 months): Define acceptable housing types in each neighborhood, with an emphasis on increasing density near essential services and BUS stops. Priority housing types include:

- Duplexes: Map amendment or text amendment to "upzone" residential neighborhoods that currently do not allow duplexes
- Townhouses: Map amendment or text amendment to "upzone" residential neighborhoods so that townhouses can be built

2. Pass Amendments (1-2 years): Pass text amendments to both city's zoning ordinance.

3. Community Engagement (3-6 months): Conduct outreach to inform the public about the code changes. If necessary, incorporate feedback into future code amendments.

Evaluation

Track the number of ADU and multifamily housing units added, along with how many of those units are in socially vulnerable neighborhoods or are within walking distance of essential services.

Land Use Recommendation 3: Change Zoning Codes to Allow Greater Development Density

Time Frame	***Relative Cost***
Medium Term	$

Issue

Low building density decreases the number of destinations that one can walk to from any given point.

Solution

Amend both city's zoning ordinances to allow an increase in development density through greater lot coverage and decreased setbacks.

Implementation Steps

1. Identify Permitted Building Densities (1-3 months): Define acceptable densities and consider, where safe and reasonable to do so, eliminating lot coverage and setback requirements.

2. Pass Amendments (1-2 years): Pass text amendments to zoning ordinance, applying community feedback as necessary.

3. Gather Community Feedback (3-6 months): Conduct outreach to inform the public about the code changes and gather opinions over time. If necessary, incorporate feedback into future code amendments.

Evaluation

Monitor building and zoning permit applications for infill development. Monitor Walk Score for number of amenities within walking distance by neighborhood.

Land Use Recommendation 4: Revitalize Commercial Parking Lots

Time Frame	***Relative Cost***
Long Term	$$

Issue

Large, underutilized parking lots in commercial corridors present physical barriers to pedestrian and transit access.

Solution

Amend zoning ordinance to decrease minimum parking requirements, allowing spaces to be freed up for other uses. Partner with community organizations to find opportunities within parking lots for demonstration projects and potential long-term placemaking.

Implementation Steps

1. Identify desired parking minimums (1-3 months): Define the lowest acceptable levels of parking supply required by property owners, with a specific focus on large scale commercial and institutional uses along Roosevelt Ave and Highway 34. Consider the full or partial elimination of minimum parking requirements.
2. Pass Amendments (1-2 years): Pass text amendments to the applicable zoning ordinances and gather community feedback when necessary.
3. Seek Community Partnerships (1 year): Identify commercial property owners willing to donate or lease parking lot space and collaborate with community groups to implement short-term demonstration projects in underutilized parking lot(s). Priority placemaking projects include (in order):
   - Public plaza, park, or event space
   - Markets or engagement fairs
   - Vendor pop-ups
4. Implement demonstration project (1-2 years): Install and promote project among community members.

Evaluation

Track number of users of parking lot demonstration projects, including how many of them accessed the location via non-car modes. Track the number of participating businesses and organizations in demonstration project events, with special attention towards those providing essential services or serving vulnerable populations.

Potential Funding Sources

Project for Public Spaces: https://www.pps.org/community-placemaking-grants
AARP Community Challenge: https://communitychallenge.aarp.org/2025
NEA Our Town: https://www.arts.gov/grants/our-town
Event space fees from participating businesses/organizations

Land Use Recommendation 5: Introduce Form-Based Codes to Support Compact, Mixed-Use Development

Time Frame	***Relative Cost***
Medium to Long Term	$

Issue

Conventional zoning codes focus on land use rather than design and form, leading to inefficient development patterns, a lack of walkable and bikeable neighborhoods, disincentivize transit services and lack of community cohesion. A form-based code approach can ensure better-designed spaces that enhance public realms while supporting mixed-use growth.

Solution

Adopting form-based code can encourage well-designed spaces that improve public realms while supporting mixed-use growth. Implementing form-based codes, emphasizing building design, placement, and streetscapes over strict land-use separations, would allow small commercial spaces into the neighborhoods without compromising the community chrematistics, and help create vibrant, compact and walkable neighborhoods.

Implementation Steps

1. Define Form-Based Code Principles (2-5 months): Identify priority areas for compact, mixed-use development, emphasizing the neighborhoods near bus routes/transportation corridors and essential services. Establish design guidelines prioritizing pedestrian-friendly street layouts, street front development, first floor commercial, and well-integrated green spaces.
2. Community Engagement (1-2 months): Conduct stakeholder outreach to ensure community inputs and to align design guidelines with community characteristics.
3. Initial Code Amendments (6-12 months): Develop separate form-based zoning overlays for target residential areas, while setting design standards and incentives. Establish guidance for developers and property owners to transition into new form-based zoning frameworks.

Evaluation (Ongoing)

After code amendment, monitoring of the new development projects under the form-based code framework every six months should be conducted to track the changes in walkability, success in housing diversity, and public space improvements.

Exemplary Best Practices

Several communities have successfully addressed the challenges created by low density, single use zoning practices. Davidson is a small town in North Carolina with a population of about 16,000. The town is one of the earliest adopters of form-based codes. In the early 1990s, through town-wide meetings, it identified the common values including creating a vibrant, walkable community, preserving community characteristics, and maintaining diversity while increasing the tax base. With these visions, the town implemented a form-based code in 1995 as well as adopting inclusionary zoning in 2001 to encourage walkable, mixed-use development and affordable housing. The new zoning ordinance focused on design, i.e. regulating heights, transparency, and building elements rather than land uses. The code also included flexible street design, limited setbacks, parking on the rear side, multi-use path requirements for new and redevelopment projects, and eliminated drive-thrus. The town also eliminated minimum or maximum densities and lot sizes. The code reform allowed the downtown and Davidson Bay area to remain pedestrian friendly zone with a mix of residential, commercial, retail and office uses. (Groundwork, 2024)

Transit Recommendation 1: Transition to a Fixed-Route System with Route Enhancements

Time Frame	***Relative Cost***
Medium to Long Term	$$

Issue

BUS's current deviated-fixed route system creates confusion about the service and uncertainty about trip times among community members.

Solution

Transition from the current deviated fixed route network to a fixed route network. Depending on open-house feedback, implement a new route network or keep the same (concept route map and proposal Appendix Page 98).

Implementation Steps

1. Initial Route Analysis and Public Input (3-6 months): Map key locations and evaluate service capacity. Use concept map as a springboard for fixed route implementation.
2. Route Revisions and Final Public Comment (1-3 months): Gather final feedback from community members on the proposed route network through a public comment session. Evaluate community feedback and move to implement changes.
3. Public Awareness (3 months): Spread public awareness of new route structure through radio ads, Facebook and clear pamphlets that can be passed out at community events and centers.
4. Driver Training and Implementation (3 months): Train drivers on the new route system while making any other minor administrative changes necessary to accommodate the new route system. Make necessary hiring changes.
5. Continual Performance Monitoring (6 months to 1 year after implementation+): Increase service frequency for top-performing routes that connect destinations identified through community input. Refine or eliminate underutilize routes.

Evaluation

1. Survey both riders and the public to gain understanding of whether changes have improved system understanding and clarity for users
2. Measure ridership both generally and at each route to see if changes caused an increase in ridership and which routes garnered the greatest level of service.
3. Measure efficiency statistics such as vehicle miles per hour or passenger trips per hour.
4. Measure the volume of transit call center calls, freeing up staff hours for other tasks.

Potential Funding Sources

FTA Enhanced Mobility Formula (Section 5310)

Transit Recommendation 2: Extend Fixed-Route Evening Service

Time Frame	*Relative Cost*
Short to Medium Term	$$

Issue

Many community members do not have a way to get home from their place of employment, forcing them to pay for expensive taxi services or ask for rides from friends and family. Those without access to a personal vehicle have limited mobility in the late afternoon and early evening hours.

Solution

Extend the weekday fixed-route service until 7 p.m.

Implementation

1. Determine operating capacity (1-3 months): Evaluate budget availability and estimate extended hourly operational costs.
2. Finalize extended hours (3 months): With the determined budget, finalize specific routes with extended hours.
3. Marketing and Community Awareness (1 month): Spread awareness of extended hours and specific offerings through Facebook and radio advertising.

Evaluation Measures

Evaluate which routes have the highest evening ridership levels and adjust service accordingly. Engage with the public on whether financial and social burdens have decreased due to having transit service in the evening hours.

Transit Recommendation 3: Increased Infrastructure and Wayfinding at Stops (Complimenting the Fixed Route System)

Time Frame	*Relative Cost*
Medium Term	$-$$$

Issue

Many community members expressed confusion or have no knowledge of the transit system. On days with inclement weather, passengers have nowhere to stay protected from the elements when waiting on buses.

Solution

Add wayfinding at each stop to clarify routes and stop times while adding benches, shelters and trashcans at high volume transit stops.

Implementation Steps

1. Implement a fixed route system (2 years): These features are only useful if there is a fixed route system with designated stops.
2. Creation and installation of wayfinding signs at each stop (1-2 months): Install wayfinding signs at each stop to indicate to riders where stops are and increase public awareness of BUS. Wayfinding signs should contain BUS branding, stop information and pickup times.
3. High Volume Bus Stop Identification (1 year): Identify high frequency stops using data from the new fixed route system.
4. Infrastructure Implementation: (Continuous): Implement benches, trash cans and shelters at high volume stops.
5. Bus Stop Advertising (Continuous): Reach out to local businesses and advertise ad space on wayfinding signs and bus shelters to help fund transit improvements.

Cost Estimates

- Wayfinding sign creation and production ($200-$800 per sign)
- Benches ($500-$1,500 per bench)
- Bus Shelters ($5,500-$7,500)
- Trash Cans ($100 per trash can)
- Regular Maintenance (Dependent on implementation)

Evaluation Measures

Survey community members to gauge whether there has been an increase in public awareness of BUS. Survey riders about their experience of using the fixed route system and whether the ridership experience has improved.

Potential Funding Sources

Advertising at stops, Grants for Busses and Bus Facilities Program (FTA Section 5339)

Figure 31: Burlington Wayfinding Sign Example

Transit Recommendation 4: Real-Time Bus Tracking Integration and Alternative Fare Payment (Unite GPS)

Time Frame	***Relative Cost***
Short Term	$-$$$

Issue

BUS riders currently face uncertain wait and travel times. Riders must physically go to human services buildings to buy multi-trip passes.

Solution

Integrate BUS with Unite GPS, an app like Transit, where riders can see live bus locations and purchase mobile fairs. This app also can track data and route information, offers to redesign the transit website and gives riders the option to purchase mobile passes.

Implementation

1. Initial Meetings (1 month): Meet with a Unite GPS representative and reach out to Mason City Transit to discuss more about the software and to learn more about implementation.
2. Purchase Software and Bus Tablets (1 month): Purchase Unite GPS software and tablets and make bus installations.
3. Train Drivers and Prepare Administratively: (3 months): Train drivers on using the system and counting passengers and make administrative changes, such as offering fares through the website.

Evaluation Measures

BUS should survey riders and the public on the usability of the app and website. Track how many users buy passes through the app or website. Use staff time saved by automating ridership data and other tasks for other tasks.

Comparison with Marshalltown Municipal Transit (MMT)

Marshalltown Municipal Transit (MMT) provides a comparable case study for Burlington Urban Service (BUS) due to the similarities in population size, regional proximity, transit services, and operational challenges. As indicated by the peer transit analysis, Marshalltown has become a leader in efficiency and ridership despite the difficulties from COVID-19 and changes in Medicaid transportation.

Marshalltown boasts a similar community profile to Burlington and West Burlington, with approximately 27,000 residents, an aging population and a strong manufacturing sector that makes up a notable portion of the local economy.

Marshalltown Municipal Transit operates four fixed routes that primarily serve the city and connect major destinations such as shopping centers, medical facilities, and schools. In addition to these fixed routes, MMT provides paratransit services for eligible individuals who require more specialized transportation. The fixed route structure increases reliability for transit users, compared to the current BUS system.

Marshalltown has made improvements to improve system reliability; ease of use and comfort that have helped improve the service. Notable improvements include a concise and reliable fixed-route structure, a modern fare system with the option to purchase mobile tickets, and an increase in transit infrastructure such as wayfinding signs and seating at stops. To better understand the shifting needs of the community. MMT has also developed a strong relationship with the community that has responded to the needs of the community, particularly regarding hours and routes.

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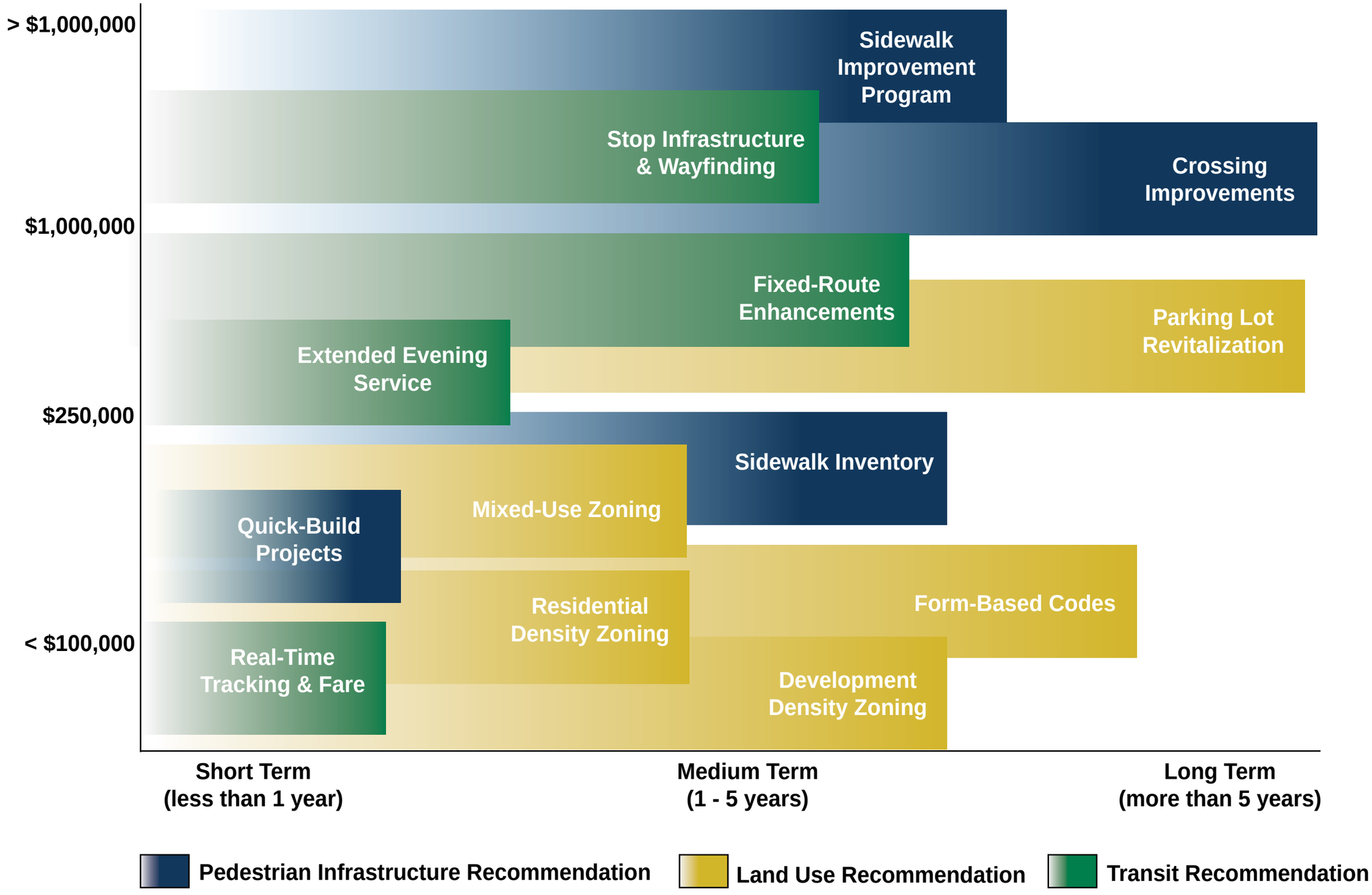
Figure 32: Recommendation Timeline and Cost Matrix

Each recommendations estimated cost and time frame is summarized in Figure 32, seen below. It is recommended that the cities begin with the lower cost, shorter time frame recommendations to build momemntum for the longer-term, high-cost projects.



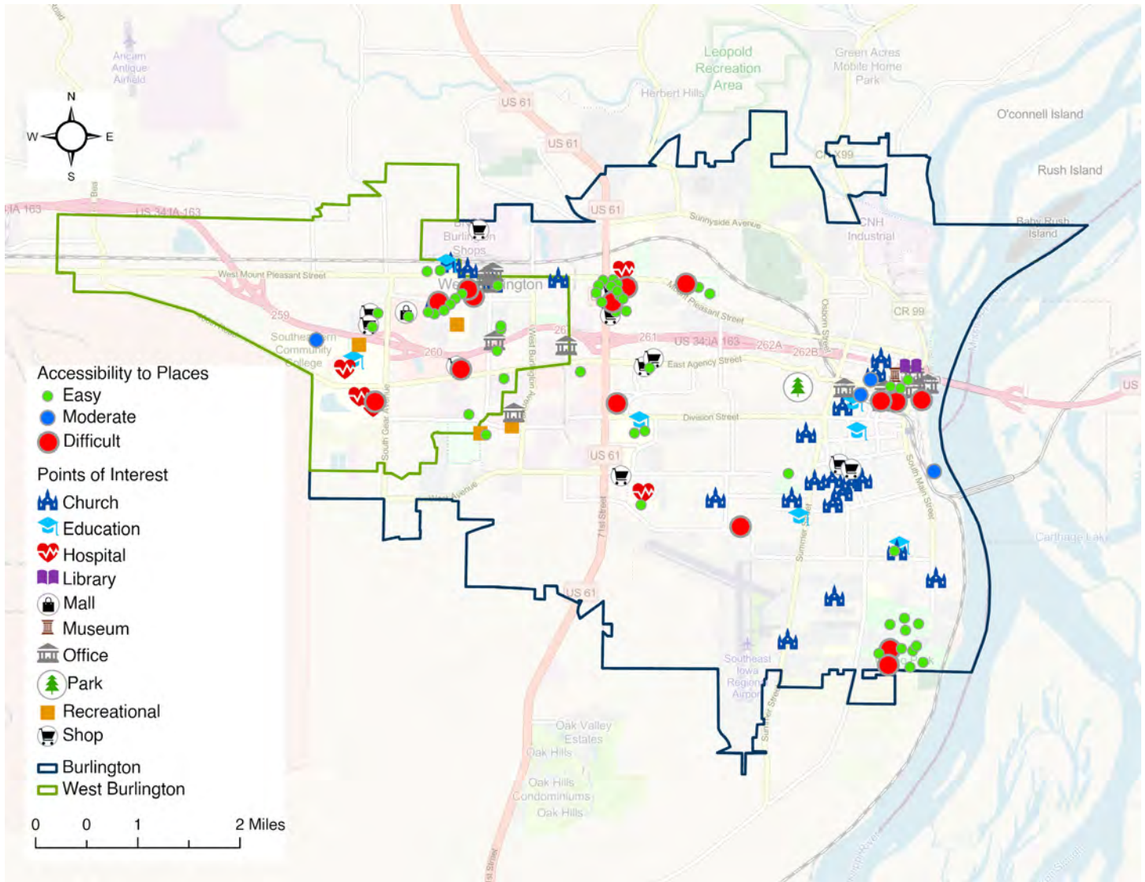
APPENDIX
Community Engagement

Tabling Events – High School Football Game

The planning team held its first public engagement event on October 18th, 2024, at the Burlington High School football game. Attendees were given the opportunity to participate in two activities: a mapping exercise and a set of free-response questions. Many different community members participated in these activities, ranging from elementary-aged children to elderly individuals.

In the mapping exercise, community members were asked to place dots on the destinations that they visit the most in the community. These dots were color-coded based on how difficult community members felt these destinations were to reach, with green being easy, red being difficult, and blue being somewhere in the middle. The results of the mapping activity are shown in Appendix Figure A. In addition to the mapping exercise, community members also had the opportunity to respond to two free-response questions.

Figure A: Community Desire Map



These questions allowed community members to think about the future and what they would like to see happening to the transportation system in their community. The two free-response questions that community members had the opportunity to respond to were: “If you could get around Greater Burlington in any way, how would you travel?” and “If you could change anything about getting around in Greater Burlington, what would you change?”

One of the main takeaways from these questions was that the sidewalk quality and network in general posed many barriers and discouraged individuals from using active transportation modes. The comments related to quality were accompanied by mentions of areas of town where pedestrian or cyclist connections may be missing, such as connections to the north side of town or on busier streets. More details of the responses can be found below:

Question 1 Responses: If you could get around Greater Burlington in any way, how would you travel?

Out of 31 total responses:

- 43% chose to drive
- 17% chose to bike
- 17% chose to walk
- 13% chose to take the bus
- 10% chose other modes

Table A: Summary of Football Game Question 1 Responses

Multipurpose paths, separate roads and trails	Bike
Car	Skateboard
Running	Drive
Electric transportation, like an electric bike/scooter for example like Chicago	Car
Bike	Bike
Want to bike but its hard to get around, more paths	Wants own car
Car	Make it free! (transit)
Car	more bike paths
Public transport	A car
I use a car but would love to walk more	Walk and drive
Trains or subways	Walk and car
By my car	Walk
My own car	Sidewalks, more bike lanes
Buses to everywhere, more routes, buses packed out	Ride a car
walk or skateboard	Drive

Question 2 Responses: If you could change anything about getting around in Greater Burlington, what would you change?

Out of 25 total responses:

- 33% were related to sidewalks and paths
- 21% were related to concerns about streets and signage
- 17% were related to interest in improved bus service

Table B: Summary of Football Game Question 2 Responses

Better Bike Paths	Better pedestrian infrastructure
few people feel comfortable cycling in the streets, they use sidewalks	slower vehicle traffic - feels unsafe as a ped
lights not on/working (traffic lights)	lots of streets fixed
reduce gas cost	the sidewalks
Jefferson hard to get through w/ curb cuts	trail connections/gaps accessing trail
Mt. Pleasant St Sidewalk condition	not comfortable walking in neighborhood near Mosquito Park
Better bus service	stupid drivers
More buses	More awareness of public transportation system
More city buses	too many stop signs
pretty easy to get around overall	difficult to make connections to north side of town
Re-concrete and fix potholes	clearer signage differentiating Burlington from West Burlington
ped bridge over Roosevelt near bike path	train crossings cause delays

Downtown Trick or Treat Event

On October 25th, the planning team returned to the communities for Burlington Downtown Trick or Treat. Community members had the opportunity to participate in similar activities to what was available at the high school football game. While this event garnered hundreds of responses many attendees were families with younger children. While there were grandparents and older siblings present, most responses came from children under 16 and their parents. Community members had another opportunity at this event to participate in the same mapping exercise which was done at the Burlington High School Football game. The results found many residents preferred a car, but there was interest in alternative transit modes too.

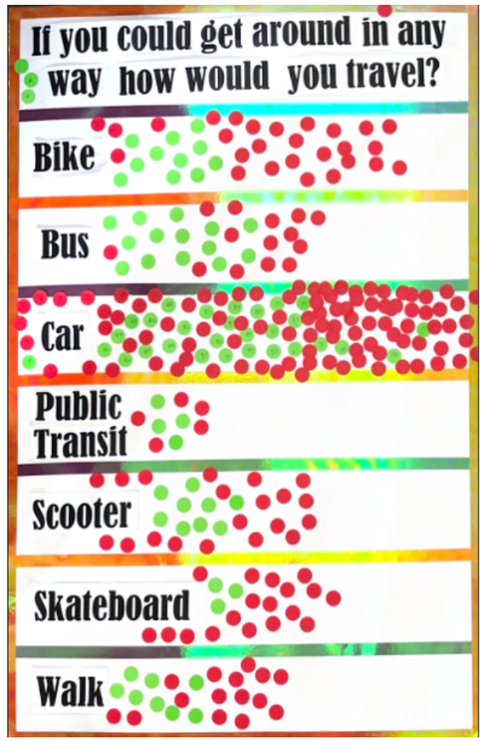
For this event, one of the two free-response questions was transitioned to a voting exercise, where community members chose the mode that they would like to use by placing a dot. The results are shown in Figure B and in Table C . Most individuals voted for car as their preferred mode choice, with the remaining modes receiving similar numbers of votes. Although they may seem small individually, modes other than car account for 150 out of 278 votes, or 54% of all votes.

Question 1 Responses: If you could get around Greater Burlington in any way, how would you travel?

Table C: Summary of Trick or Treat Question 1 Responses

Mode	Count
Bike	38
Public Transit	37
Car	128
Scooter	29
Skateboard	21
Walk	23
Motorcycle	2

Figure B: Trick or Treat Voting Activity

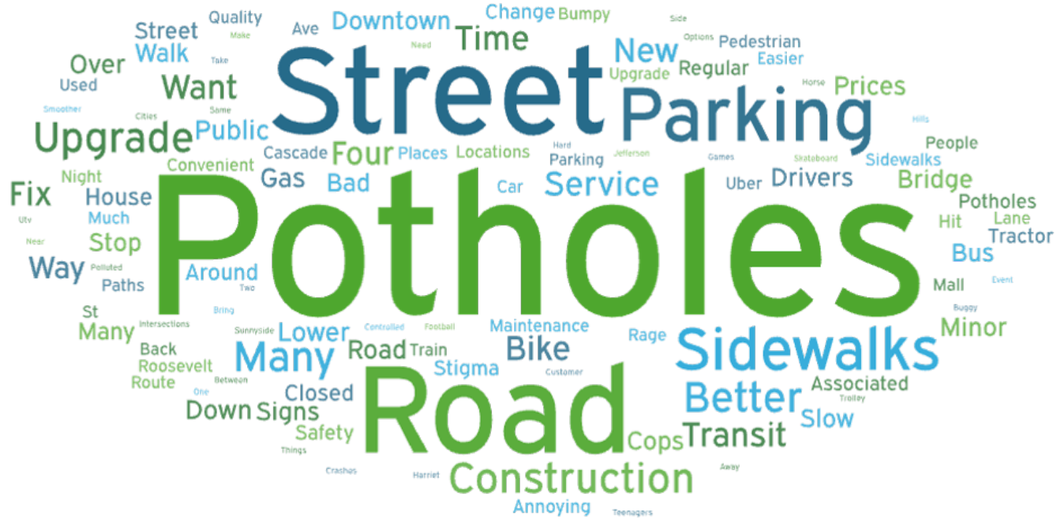


Question 2: If you could change anything about getting around in Greater Burlington, what would you change?

Out of 89 total responses:

- 13 were related to potholes
- 8 were related to parking
- 7 were related to sidewalks
- 5 were related to construction
- 4 were related to bikes
- 7 were related to transit/the bus

Figure C: Trick or Treat Question 2 Responses Wordcloud



Focus Groups

On March 1st, 2025, focus groups were conducted with community members to provide more detailed comments and stories about the transportation system in the community. These groups were held at the Burlington Public Library with two-time options. The goal of these sessions was to understand the transportation system and its barriers from those who rely on it the most and regularly walk, bike, or use transit. Demographic information was gathered from the participants of the group and is summarized in Table D. Participants were given a $30 gift card to Aldi for their time. In the focus groups, conversations varied based on individual experiences, but generally, participants were asked to discuss the following questions:

Introductions
- What is your name? What neighborhood do you live in? Where do go (besides your home) the most? Reminder, personal information, such as your name will not be included in the final results.
- Ice breaker:
- Using three words, summarize your experience with transportation in Burlington and West Burlington.

Land Use
- What kinds of things are already in your neighborhood?
- What kinds of things, if any, would you like to be closer to your home?

Pedestrian Infrastructure
- Where do you like to walk and bike? (and why)
- Where are you the most comfortable walking and biking?
- Where would you never walk or bike?

Transit
- Show of hands, who has used BUS before?
- If no one has used BUS before:
- What is the general community sentiment about the service?
- What causes you to not use the service?
- If participants had used BUS before:
- Describe your experience using the BUS service
- What do you like about BUS
- What do you not like about BUS

Final Question
- Does anyone have anything else that they wish to share?

Table D: Summary of Focus Group Demographic Question Responses

Which city do you live in?	
Burlington	9
West Burlington	0
What is your age group?	
17 or under	0
18 – 24	0
25 – 34	3
35 – 44	3
45 – 54	3
55 – 64	0
65 – 74	0
75 or older	0
What is your household annual pre-tax income?	
$30,000 or below	4
$31,000 - $60,000	3
$61,000 - $90,000	2
$91,000 - $120,000	0
$121,000 or above	0
Do you identify as having a disability?	
Yes	3
No	6
Don’t know	0

Open House

On April 4th, 2025, a community open house was hosted at the Burlington Public Library from 13:20 pm – 4:30 pm. The goal of this event was to have conversations with community members about recommendations being made to the community in hopes of informing recommendation prioritization. This event also allowed for educational conversations with community members about what different improvements would look like and the issues that they would hopefully address. Along with information about the project, its goals, and how the proposed recommendations had been reached, there were four opportunities for community members to vote on and discuss potential improvements. Activities and their results are summarized in the tables below.

Pedestrian Improvements Activity
In this activity, participants were given three stickers to be used to vote on the proposed improvements to the pedestrian network. They could place these stickers however they wished (ex. All three stickers on one improvement, two stickers on one improvement and one sticker on a different improvement). In total, 34 individuals participated in this activity. The results of this activity are summarized below in Table E.

Table E: Summary of Open House Pedestrian Improvements Activity

Improvement	Number of Votes	Priority Ranking (Based on # of Votes)
Lighting	23	2
Quick-Build Projects	13	4
Curb Ramps	9	5
Sidewalk Updates	35	1
Improved Crossings	22	3

Land Use Changes Activity
In this activity, participants were given three stickers to be used to vote on proposed new uses to be permitted in their community. They were asked to choose one preferred option from each of the three categories corresponding to identified land use barriers: use mix, housing density, and parking lot reuse. The results of the activity are demonstrated below in Table F. Participants were also asked to rank which category was the most important to them: Use mix received 15 votes, housing density received 6 votes, and parking lot reuse received 10 votes.

Table F: Summary of Open House Land Use Changes Activity

Category	Proposed Use	Number of Votes	Category Priority Ranking (Based on # of Votes)
Use Mix	Accessory commercial units	19	3
Use Mix	Urban farming	9	2
Use Mix	Corner stores	2	1
Housing Density	Accessory dwelling units	16	1
Housing Density	Duplexes	10	2
Housing Density	Townhouses	7	3
Parking Lot Reuse	Parking lot markets	9	2
Parking Lot Reuse	Public plaza	14	1
Parking Lot Reuse	Pop-up businesses	6	3

Transit Prioritization Activity
In this activity, participants were given one sticker to choose between transit that has wide coverage and less frequency, or less coverage and greater frequency. Respondents were overwhelmingly in support of the higher frequency transit service. For the second part of the activity, respondents were given a red and a green sticker for their first and second choice of the recommendation that should be prioritized. A summary of responses can be found in the table below.

Table G: Summary of Open House Transit Prioritization Activity

Recommendation	First Priority Votes	Second Priority Votes
Extended Service Hours	17	5
Transit Stop Infrastructure	11	9
Real-Time Bus Tracking	7	10
Mobile Fare Payment Option	2	5

Figure D: Open House Intro Poster

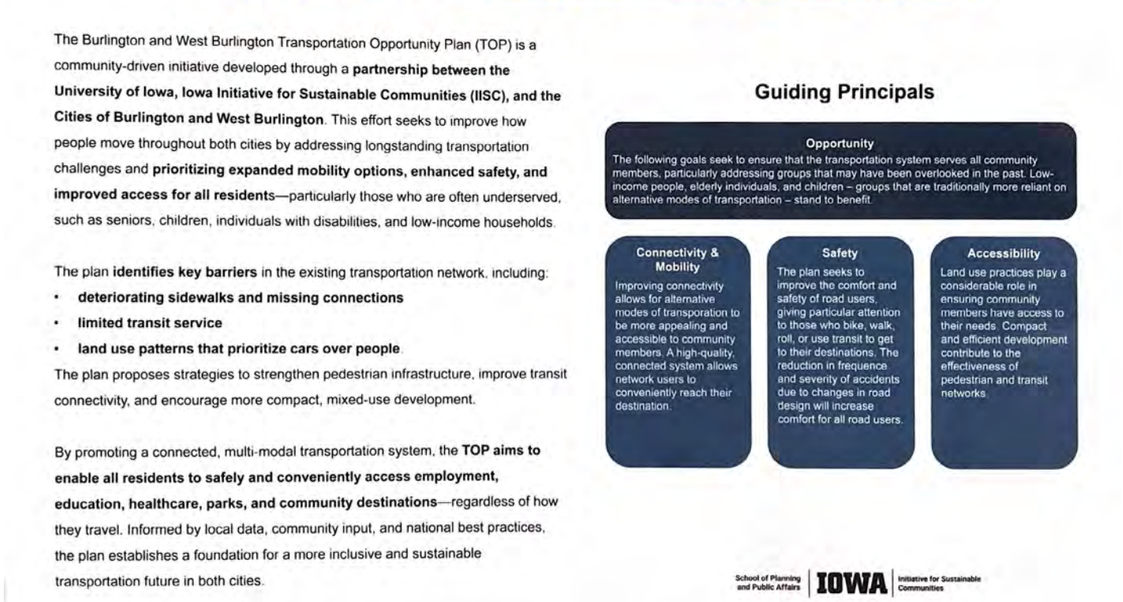


Figure E: Open House Barrier Introduction Poster

Burlington and West Burlington Transportation Opportunity Plan: Barriers

A SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis was conducted as part of the Transportation Opportunity Plan (TOP) for Burlington and West Burlington. This process included research, community engagement, and time spent on the ground in both cities. It helped identify key factors shaping how residents move throughout the area.

The plan focuses on three main transportation barriers:

- **Pedestrian Infrastructure**
- **Land Use and Connectivity**
- **Transit Accessibility**

The team identified opportunities to build on community strengths and obstacles that may hinder implementation of future transportation improvements.

OPPORTUNITIES

Gridded Street Network
- Walkable design makes it easier to improve pedestrian and transit access.

Strong Parks & Recreation
- Connecting more residents to places like Dankwardt Park and the RecPlex supports active transportation.

Major Employers & Institutions
- Hospitals, factories, colleges, and retailers create demand for improved access to jobs and services.

Downtown Revitalization
- Burlington's renewed downtown offers momentum for walkability and land use improvements.

Health & Wellness Trends
- A growing focus on active living supports investments in walking and biking infrastructure.

OBSTACLES

Limited Local Funding
- Shrinking tax base makes it difficult to fund major infrastructure projects without outside help.

Car Dependence
- 83% of commutes are by car; shifting habits requires reliable alternatives and public buy-in.

Separated Land Uses
- Zoning that separates housing from jobs and services limits walkability and transit feasibility.

Sidewalk Maintenance Burden
- Costs fall heavily on residents, especially low-income households, limiting repairs and improvements.

Cross-City Coordination
- Burlington and West Burlington share services but operate independently, complicating joint planning efforts.

Figure F: Open House Pedestrian Infrastructure Poster

Improvements to Pedestrian Infrastructure

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The goal of the activity below is to prioritize different types of improvements to pedestrian infrastructure in the cities of Burlington and West Burlington. These improvements will hopefully make the communities of Burlington and West Burlington safer and more comfortable places to walk. You will be given three stickers to 'vote' on which improvement you think is the most important. You may place them however you wish (i.e. all three dots on the improvement you believe would be best).

Existing Conditions

Cracked, broken, or missing segments of sidewalk

Overly wide streets

Missing or non-compliant curb ramps

Why are sidewalks and pedestrian infrastructure important?

- **Health & Wellness:** Encourage active transportation; reduce chronic disease risk
- **Safety:** Safer travel for children, seniors, and people with disabilities
- **Equity:** Essential for low-income and disabled residents who may not have access to a car
- **Access:** Sidewalks connect residents to jobs, schools, healthcare, and transit

Vote Here ↓

Lighting
- Makes people walking more visible to drivers
- Improves the safety of those walking or biking
- Lighting can also increase pedestrian comfort when walking at night.

Quick-Build Projects
- Short-term installations built using low-cost materials.
- Slow vehicle speeds by narrowing the road
- Allow the community to test different measures before investing in costly, often lengthy, construction projects.

Curb Ramps
- Enables those who use mobility devices, push strollers, or ride bikes or scooters to easily transition from the street up onto the sidewalk.
- This could include the replacement of existing ramps in poor condition or the installation of ramps where they may be missing.

Sidewalk Updates
- Provides a safe place for pedestrians to walk separated from traffic
- Sidewalk updates would include the repair or replacement of sections of sidewalk that may be cracked, broken, or buckled.

Improved Crossings
- Increased safety when trying to cross the road as a pedestrian
- Improvements to crossings could include the installation of painted crosswalks, overhead lighting, signage, and at some locations, pedestrian signals and buttons.

Figure G: Open House Land Use Poster

Desired Land Use Changes

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How Does Land Use Affect Transportation?

Land use shapes transportation patterns and accessibility. Through zoning, cities guide development, influencing travel behavior. Effective zoning policies are key to ensuring everyone can access essential services affordably and efficiently.

Current Scenarios

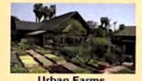
Single Use Development
- residential-only, commercial-only, industrial-only zones
- Low-density, large-lot suburbs
- Focuses on setbacks, parking minimums, and height limits rather than urban design.

Spacious Neighborhood Living
- Majority single family housing
- Limited housing opportunities near the city center
- Limited housing choices

Expanded Parking Areas
- More land allocated to parking than actual buildings
- 70% of them are underutilized
- Limits walking, biking and public transit

Potential Future Scenarios

Accessory Commercial Units



Urban Farms

Corner Stores

Accessory Housing Units

Duplexes

Townhomes

Parking Lot Markets

Public Plaza

Pop-up Businesses

Rank The Potential Scenarios Based On Your Needs

Use Mix – Small Neighborhood Shop

Housing Diversity In Your Neighborhood

Repurpose Vacant Parking Lots

Figure H: Open House BUS Transit Improvements Poster

Desired Transit Changes

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BUS Transit Improvements

If Burlington Urban Services switched to a fixed route system, while keeping demand-response services, what would you prefer with the new service?

Wide Coverage, Less Frequency	Less Coverage, Higher Frequency
	

Existing Condition	Recommended Action	Description	Rank
BUS service ends at 3:30 on weekdays and offers limited weekend service, leaving riders without reliable transportation in the evening.	Extended weekday service and limited weekend service.	BUS fixed route service would operate until 7 pm on weekdays. The fixed route service would also be provided on weekends at a limited level, with only the most popular routes being offered on Saturday and Sunday.	
Current riders have no where to sit while waiting for a bus. Riders have no protection from harsh weather while waiting for a bus. There is little to no signage along routes to inform transit users about routes and service timing.	Bus shelters, benches and signs at stops. 	Benches and bus shelters would be placed at popular stops along the fixed routes. Wayfinding signage with information about stop times and routes, would be posted at most to all bus stops to provide riders with accurate information about BUS.	
BUS users face uncertain wait times and have voiced confusion with the system.	Real-time bus tracking and trip planning. 	By integrating system services and providing real-time tracking, transit users can track bus locations and have knowledge on wait times. Apps such as Transit can also provide trip planning, giving users direction on routes and trip times to another location when given an address.	
BUS users must buy physical punch cards for monthly and yearly passes at the public works building or have cash ready when paying per trip.	Option to purchase mobile bus passes.	Provide users with a mobile option to buy monthly/yearly passes. This could be done through an app integrated with BUS, as proposed by the previous recommended action. This could also be done through the BUS website.	

Demographic Patterns

Table H: T Travel Time to Work by Percent of Commuters

Iowa	Burlington	West Burlington	Burlington and West Burlington (Combined)
41%	62%	55%	61%
38%	22%	29%	23%
18%	11%	11%	11%
4%	5%	5%	5%

U.S. Census Bureau. (2023). B08012: Sex of Workers by Travel Time to Work

Iowa Data Bike and Sidewalk Assessment

Sidewalk quality, compliance, and connectivity have long been pressing issues in the cities of Burlington and West Burlington. To address these challenges, our team employed the Iowa Data Bike, a tool developed by the Des Moines Area Metropolitan Planning Organization (MPO) in collaboration with the Iowa Department of Public Health and the Iowa Natural Heritage Foundation. This innovative bike-based data collection vehicle uses an electric-assist bicycle equipped with an iPhone app to measure pavement roughness, alongside a GoPro Max 360 camera (See Figure 11) to capture comprehensive 360-degree imagery of trails and sidewalks.

Project Goals

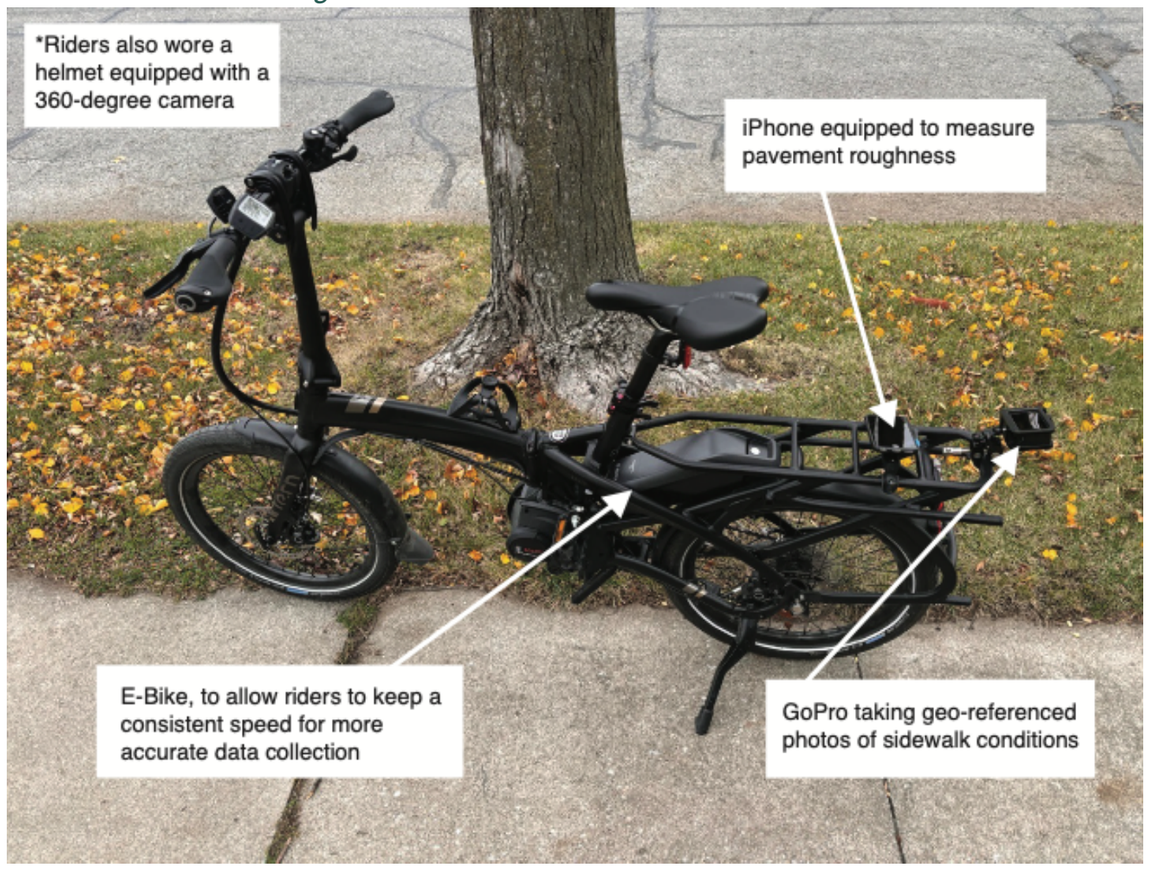
The overarching goal of our study was to assess sidewalk conditions and understand their impact on walkability and mobility in the community. Specific objectives included:

1. **Measuring Pavement Quality and Roughness:** Using the Iowa Data Bike, we evaluated the physical state of sidewalks across roughly 27 miles of selected routes.
2. **Documenting Sidewalk Connectivity:** By focusing on areas near schools and in low-income census tracts, the project aimed to highlight gaps in connectivity and the daily challenges faced by children walking to school and residents without access to private vehicles.
3. **Capturing 360-Degree Imagery:** The imagery collected will provide a visual record of sidewalk conditions, enhancing the narrative of accessibility challenges within the city.
4. **identifying Barriers to Walkability and Micromobility:** This study also sought to evaluate how sidewalk conditions impact residents relying on walking, biking, or other micromobility options for daily transportation.

To further understand the experience of pedestrians, cyclists, and other sidewalk users in the communities of Burlington and West Burlington, sidewalk condition data was collected using the Iowa Data Bike. The Iowa Data Bike utilizes an e-bike equipped with many sensors, shown in Figure 11 to collect data on sidewalk conditions. The study prioritized routes within low-income census tracts, areas surrounding schools, and several major arterial roads. Block groups that are likely to have higher transportation needs (including higher percentages of young or elderly individuals,

median household incomes below $40,000 (Census Tract 3 and 4), or households without access to a personal vehicle) are shown in orange in Figure 13. 27 miles of Burlington and West Burlington's sidewalk network was measured in total. Further information regarding the data bike methodology can be found on page 83 of the appendix.

Figure I: Iowa Data Bike and Sensor Details



Current Sidewalk Replacement Policies and Challenges

Burlington and West Burlington currently have policies in place that place responsibility for sidewalk maintenance and replacement primarily on adjacent property owners. While this approach is common in many municipalities, it has proven to be inadequate in addressing systemic issues within the sidewalk network. The lack of funding and enforcement means property owners are often financially burdened by the cost of replacing sidewalks, leading to significant delays in repairs or outright neglect. Additionally, enforcement of these policies is inconsistent, resulting in a patchwork of repaired and unrepaired sidewalks that fail to provide a continuous and safe pedestrian experience.

The limited focus on equity; these policies disproportionately impact low-income residents, who may lack the resources to maintain sidewalks adjacent to their properties. This exacerbates accessibility

challenges in neighborhoods where walkability is most critical. Also, disconnected planning, where there is limited coordination between sidewalk replacement efforts and broader transportation planning initiatives. As a result, gaps in the network remain unaddressed, and opportunities to enhance connectivity are missed. Finally, the inadequate support for vulnerable populations, the current policies fail to prioritize areas near schools, transit lines, and key community resources, leaving vulnerable populations, such as children and those without access to cars, at a disadvantage.

Methodology

Due to resource and time constraints, the entire sidewalk network of Burlington and West Burlington could not be measured. Instead, we prioritized routes within low-income census tracts and areas surrounding schools. These routes were selected to provide insights into the lived experiences of residents, particularly those most dependent on pedestrian infrastructure. In addition to these priority areas, we rode along major arterial and collector roads to assess the challenges faced by pedestrians and micromobility users attempting to navigate busy corridors. This approach aimed to illustrate the difficulties residents experience when trying to access essential destinations such as schools, workplaces, and community services in areas with limited pedestrian infrastructure. These routes highlight the barriers to safe and convenient transportation for those who do not have access to a car.

The Iowa Data Bike's app-generated roughness scores allow us to quantify pavement quality, while the 360-degree imagery offers an immersive perspective on sidewalk conditions. The collected data is being processed by researchers at Iowa State University and will form the basis for future recommendations to improve sidewalk accessibility and compliance.

Table I: Data Bike Sidewalk Condition Ranking

Sidewalk Condition Ranking	Miles of Sidewalk	Percent of Total Surveyed Length
Excellent	9.37	41.87%
Fair	3.73	16.67%
Good	7.38	32.98%
Poor	1.90	8.49%

Sidewalk and Right of Way Liability: Does the Responsibility Lie with the City or Property Owner?

Recent Holding: Bankers Trust v. City of West Des Moines
Under this decision, the responsibilities regarding sidewalk maintenance and repair are divided between the city and the abutting property owner.

City Responsibilities
The city is responsible for notifying the property owner if a sidewalk requires repair or replacement. As noted in the decision:

> *"Sidewalk repairs are a rarer and more costly undertaking. Determining whether a repair is needed and the kind of repair required may involve engineering or cost-benefit analysis. Thus, it makes sense for the city to shoulder much of this obligation, even if the city retains the right to require property owners to make the repairs according to city specifications. If the property owner does not do so, the city may charge back the cost of the repair to the abutting property owner." (Bankers Trust Co. v. City of West Des Moines, 752 N.W.2d 524, 529 (Iowa 2008)).*

Property Owner Responsibilities
The homeowner is responsible for scheduling and paying for the needed maintenance once notified by the city. If the property owner does not complete the repairs within a reasonable timeframe—as determined by the city in the official notice—then the city may proceed with the repairs and bill the property owner for the service.

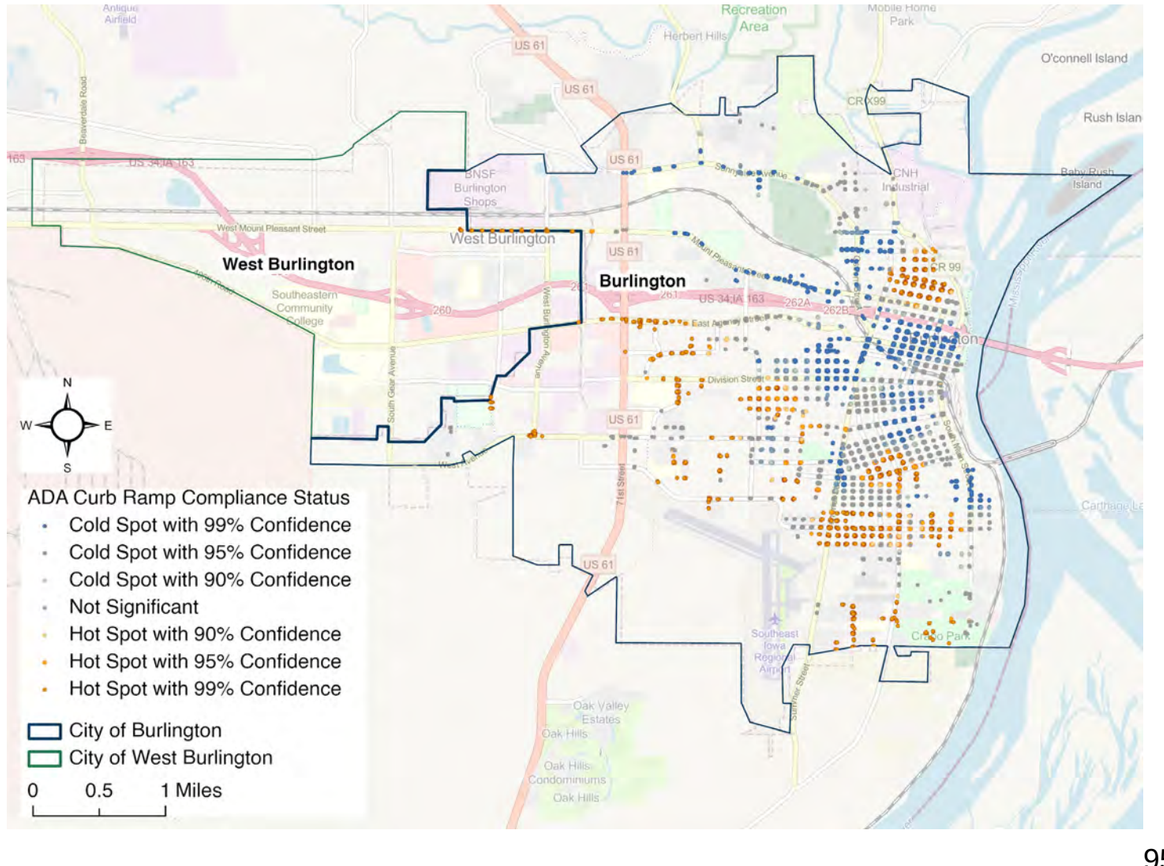
According to Iowa Code § 364.12(2)(d)

> *"Abutting landowners are only required to repair sidewalks if the city provides notice by certified mail that the sidewalk requires repair."*

Additionally, abutting landowners may be held liable for damages related to sidewalk conditions

> "*The statute permits cities to hold abutting landowners liable for damages, but only for damages resulting from a failure to use reasonable care in removing snow and ice from the sidewalk."*

Figure J: ADA Ramp Compliance Map

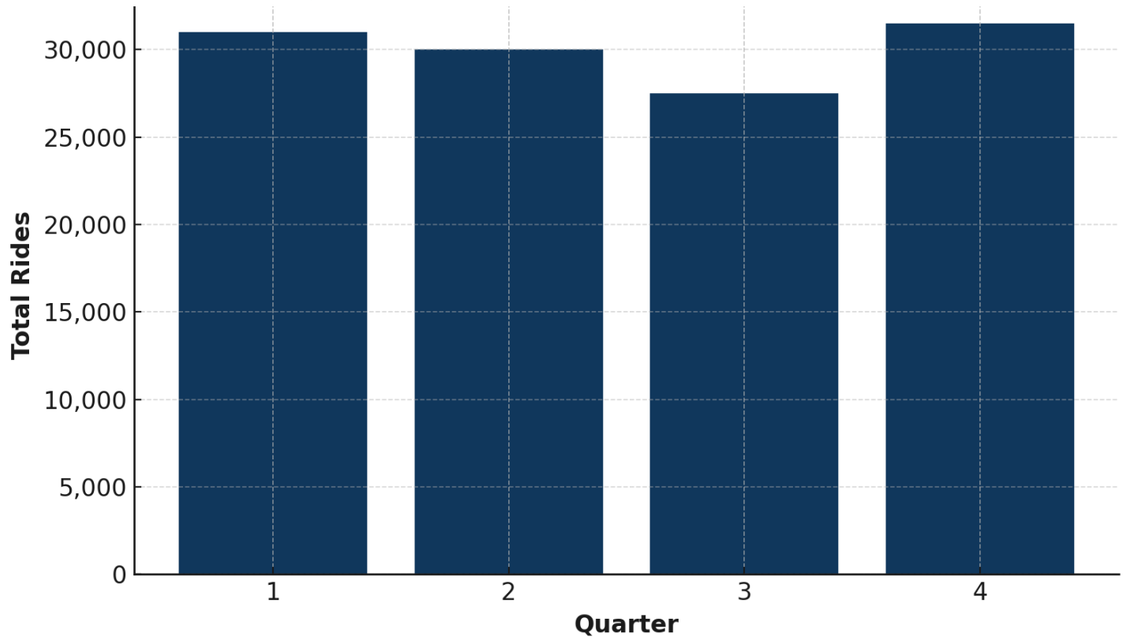


Burlington Urban Service (BUS) Analysis

Quarterly Ridership Patterns

Ridership across the year exhibits distinct seasonal variations, reflecting broader societal patterns such as school schedules and vacation trends. The third quarter marks the lowest ridership at 27,740 rides, corresponding to summer months when students are not commuting. In contrast, the first and fourth quarters show significantly higher ridership, with 31,093 and 31,343 rides, respectively.

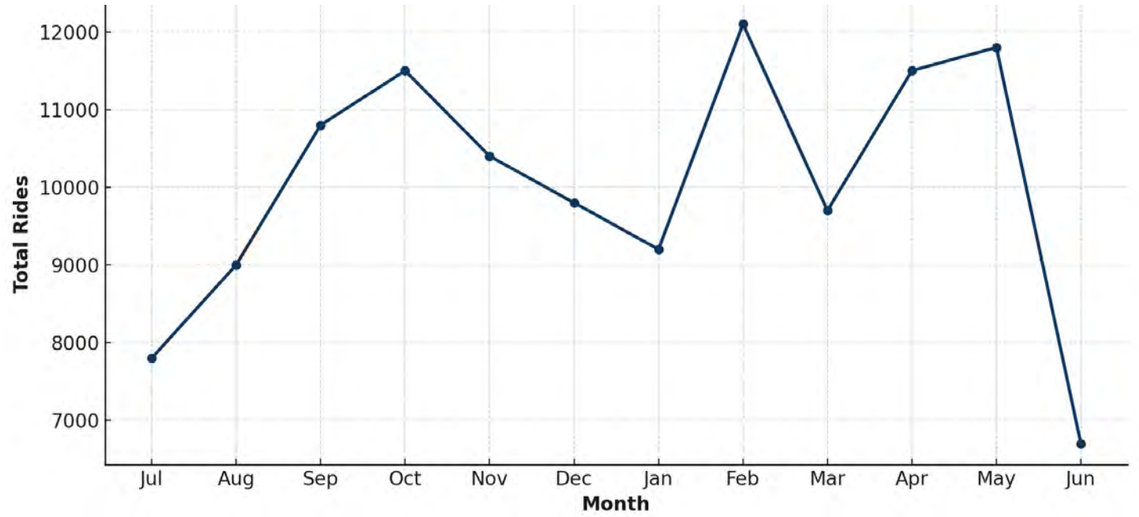
Figure K: BUS Quarterly Ridership Patterns



Monthly Ridership Trends

Ridership peaks during March and October, aligning with spring and fall schedules. Conversely, June (6,633 rides) and July (7,629 rides) mark the lowest ridership months. These trends reaffirm the influence of school calendars and seasonality. Introducing targeted promotions during low-ridership months like June and July could stimulate transit use. Partnerships with summer event organizers, offering discounted group fares, and improving marketing campaigns could effectively boost summer ridership.

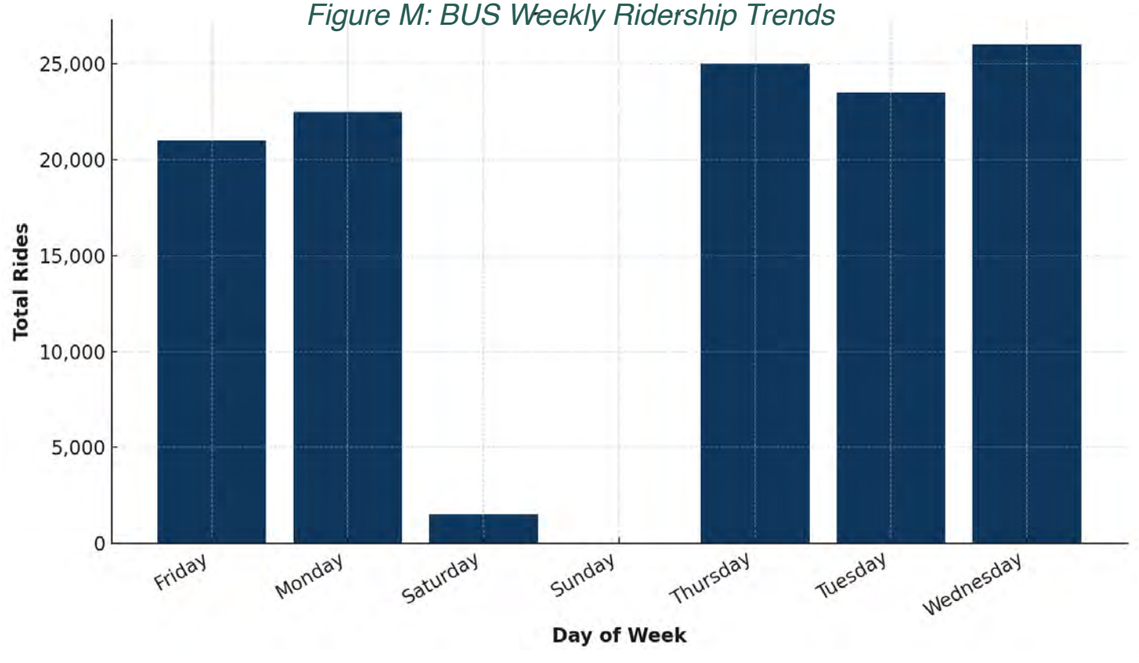
Figure L: BUS Monthly Ridership Trends



Weekly Ridership Trends

Weekly data highlights how transit usage aligns with workweek dynamics. Wednesday has the highest ridership with over 25,000 trips taken annually between 2019-2024. Meanwhile, Saturdays plummet to the lowest ridership levels, with just 1,523 rides due to limited-service offerings. Weekdays generally maintain consistent ridership levels, ranging between 21,126 and 25,888 rides. This trend indicates that transit services support commuters and school schedules.

Figure M: BUS Weekly Ridership Trends



Fixed Route Concept Map Proposal

TOP recommends Burlington Urban Service switch its deviated-fixed route system to a fixed route service and maintain a reliable demand-response service for those who lack mobility. The concept fixed-route system considered key destinations highlighted by community members in the trick or treat community engagement event, transit need by neighborhood, and employment-residential density data. Brief details for each proposed route can be found below:

Sunnyside Route: The current Sunnyside route serves the northside of Burlington and is the third most popular route, despite not being along a major corridor. As a result, the new fixed route system would serve this northern area, while offering a connection to West Burlington and looping back around the Mount Pleasant Street Corridor back to Burlington.

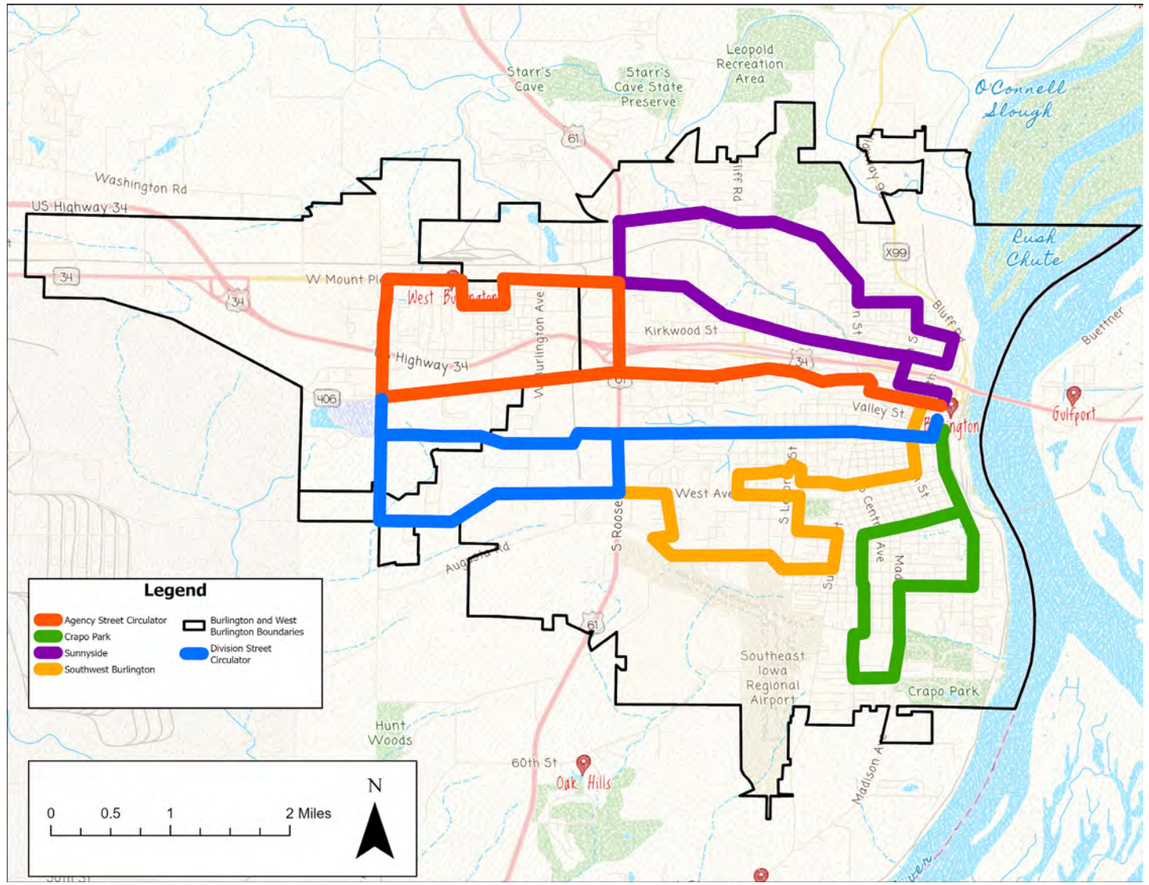
Crapo Park Route: This route would continue to serve southeast Burlington and offer residents a connection to its new state of the art park. It would remain relatively unchanged compared to its current iteration.

Southwest Burlington: Combines the current West Avenue and South Hill routes into one, with the goal of serving the southwest residential area of Burlington. This route should offer connections to other routes, such as the proposed Division Street Connector and Crapo Park route.

Division and Agency Street Connectors: The most important addition to the transit network, these two proposed routes would offer a connection point between the residential center of Burlington and employment center of West Burlington. One route would serve the Division Street corridor and northside of West Burlington, while the other would travel along Agency Street and loop through southern West Burlington. Both routes should have a connection point at either the regional medical center or Southeast Iowa Community College.

Below are these routes visualized in a concept route map (Figure N). While this serves as a first step for Burlington and West Burlington to improve its public transit, further community input should be gathered on exact routes and stop locations before full implementation. The proposed routes cut the number of routes from six to five, while better connecting residents to key destinations in both communities. Connecting points between routes offer the opportunity for stops with bus infrastructure.

Figure N: Fixed Route Concept Map



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