

October 2022



THE UNIVERSITY OF KANSAS  
CITY OF LAWRENCE



# Bus Stop Improvement Program

## Technical Guidelines

# Introduction

Lawrence Transit's Bus Stop Improvement Program includes efforts through multiple processes to improve bus stops on an ongoing basis. Bus stops are often the first interaction that someone has with the Lawrence Transit bus system. Bus stops should be easy to find, accessible for all, comfortable to wait at, and contribute to an aesthetically pleasing streetscape.

The basic standard for all bus stops is to include a bus stop sign and an accessible paved boarding area. Amenities such as benches, shelters, bike racks, and trashcans are added based on the technical guidelines outlined in this document and take into consideration land use context, right-of-way, and budgetary constraints.

This document serves three primary purposes:

- To provide a technical guide for transit staff when planning, prioritizing, and implementing bus stop improvements.
- To provide technical specifications for private development, so that bus stop design remains consistent and accessible throughout Lawrence.
- To provide the general public with understanding and expectations for how bus stops are being improved toward goals for accessibility and comfort.



## Existing Conditions

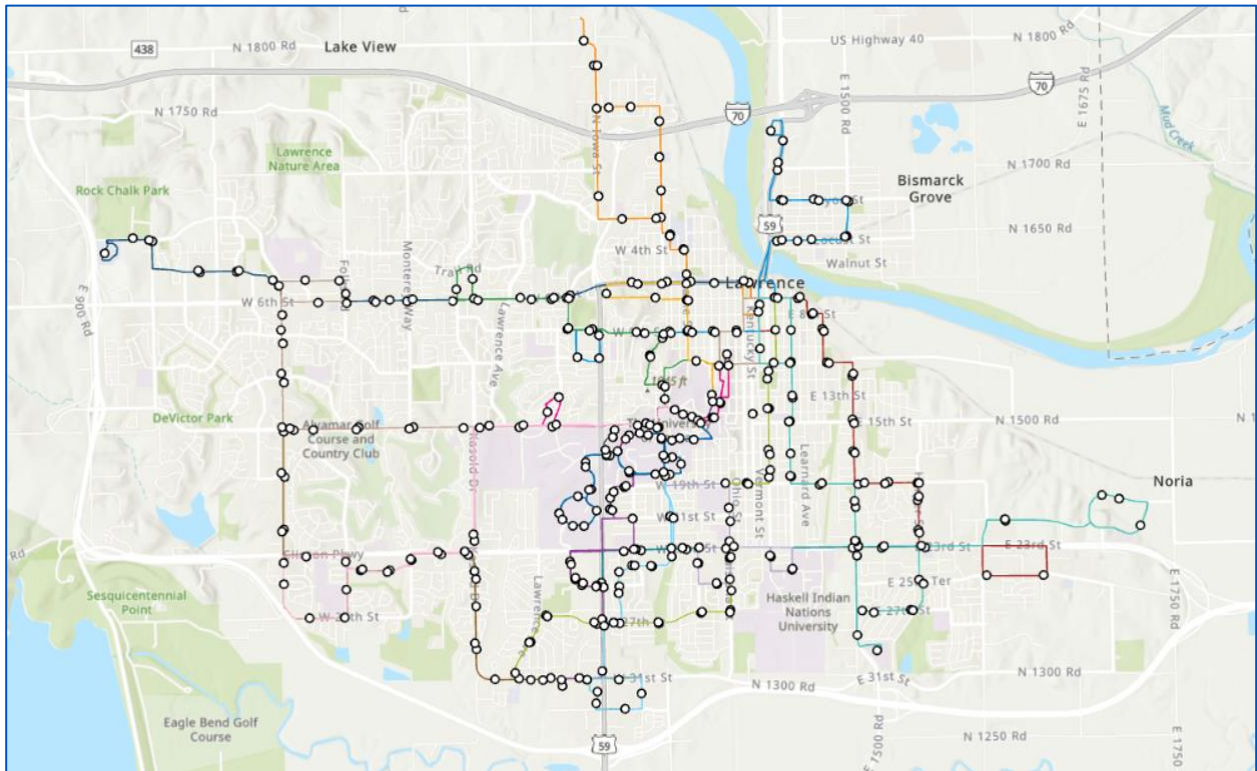
At this time, there are currently 376 bus stops, with stats shown below for the percent of stops with ADA-compliant boarding pads, shelters, benches, and bike racks:

- 180 ADA Boarding Pads (48%)
- 63 Shelters (17%)
- 54 Benches (14%)
- 24 Bike Racks (6%)

The location of bus stops can be seen in **Figure 1** below.



FIGURE 1: 2022 BUS STOPS AND ROUTES



The total number of bus stops may change each year, as bus routes are adjusted and stops are added and removed to maintain reasonable walking distances. Placement of bus stops is a balance between having them close enough for short walking distances and spread out enough to keep buses from stopping too frequently, which slows down service.<sup>1</sup>

## Capital Funding and Coordination

Lawrence Transit's Bus Stop Improvement Program includes efforts through multiple processes to improve bus stops on an ongoing basis. In a given year, bus stops may be improved through one or more of the following six methods:

- Annual operational budget: \$150,000
  - Lawrence Transit's main source of funding for bus stop

### Setting Expectations

Through these six methods for bus stop improvements, Lawrence Transit expects to improve about 20-30 stops in an average year. Funding and staff time for management are the primary constraints to the speed of improvements.

<sup>1</sup> <https://www.transit.dot.gov/research-innovation/stops-spacing-location-and-design>

improvements including purchasing amenities and paying for design and concrete work at improved sites

- In coordination with the MSO Street Maintenance Program + Sidewalk Improvement Program
- In coordination with discrete MSO street or sidewalk projects
- In coordination with the ADA Transition Plan
- In coordination with private development
- As part of a competitive local, state, or federal grant award

## Maintenance

Historically, Lawrence Transit has used glass bus shelters for bus stop improvements, as shown in **Figure 2**.

Lawrence Transit currently has 48 glass shelters out of 63 total shelters throughout Lawrence. Glass shelters are susceptible to damage, and from January 2020 – September 2022, Lawrence Transit replaced 10 panes of glass due to mowers throwing rocks, snowplows throwing snow, and vandalism at the cost of \$7,113. Five trashcans were replaced in 2021 – 2022 at the total cost of \$3,680. In addition, four shelters have needed complete replacement due to automobile accidents or significant vandalism. Each pane of glass costs ~\$700 to replace and a new shelter replacement costs ~\$10,000. The funds needed to replace broken glass or entire shelters come from Lawrence Transit's \$150,000 operational budget. In an attempt to lessen the time shelters are closed and decrease maintenance costs that could go towards installing more amenities, Lawrence Transit is piloting shelters without glass, as shown in **Figure 3**.

At this time, Lawrence Transit retains two maintenance contracts, one for shelter glass cleaning and one for trash pickup and disposal. These contracts are renegotiated every three years. Balancing amenity improvements with these and other yearly maintenance costs is part of our planning process. The total annual cost of these two contracts is ~\$40,000. Each contract is billed monthly and additional shelter locations, which all include trashcans, must be balanced with an increase in the amenity maintenance budget.

FIGURE 2: STOP #3, 31<sup>ST</sup> @ IOWA



FIGURE 3: STOP #344, CLINTON @ HAWTHORNE







# Program Goals and Prioritization

The Bus Stop Improvement Program aims to improve rider comfort and accessibility using a variety of amenities at each bus stop, balanced against a yearly budget. Financial limitations require prioritizing which bus stops are improved in a given year. To systematically determine which bus stops are prioritized for improvement, Lawrence Transit developed a model that scores bus stops based on the metrics in the **Bus Stop Improvement Model** section below. Transit-planning staff confirm stops highlighted by the model for amenity upgrades will function well in the transit system through a process that includes bus operator review and site visits.

## Goals

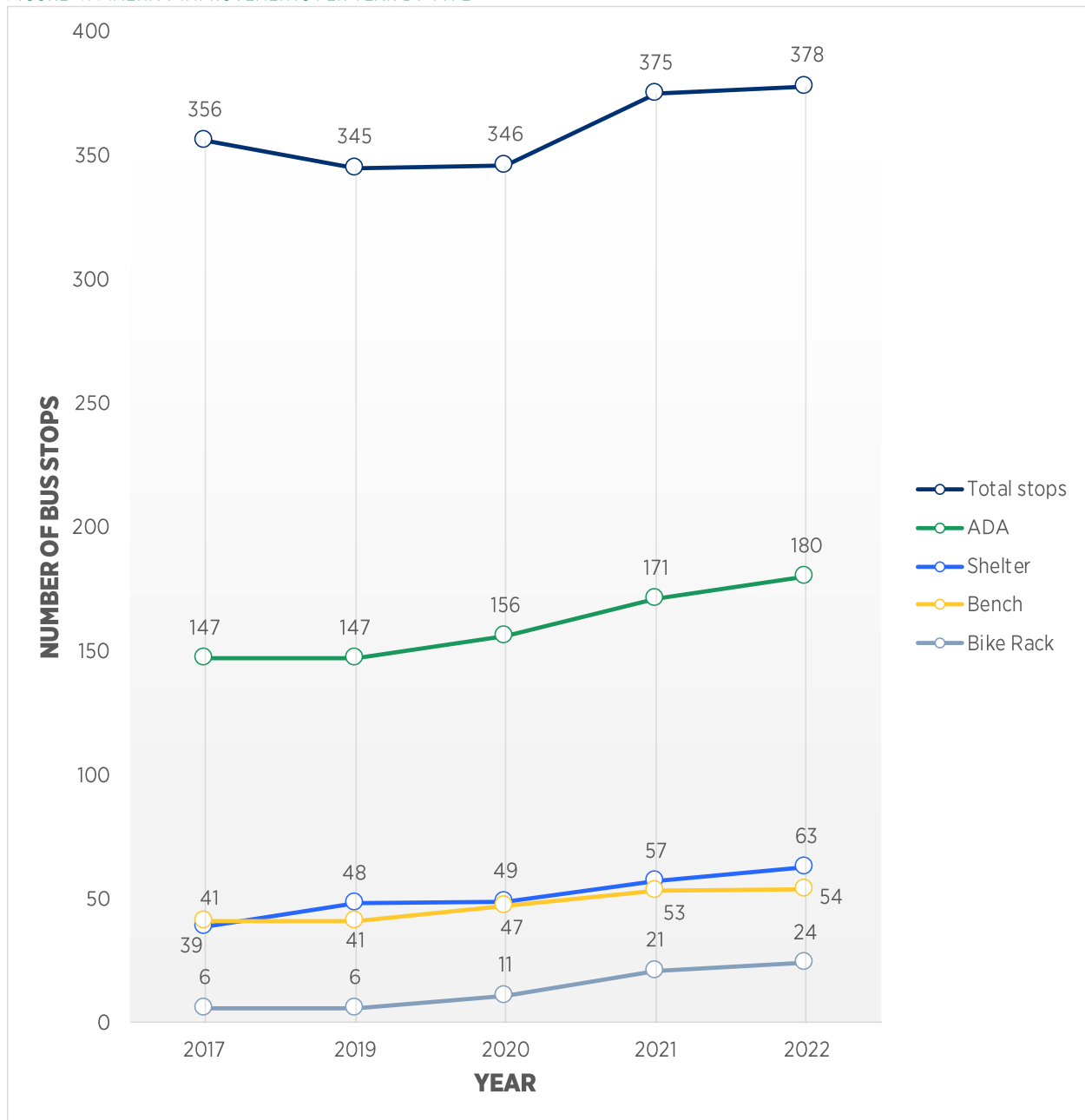
With close to 400 bus stops, system-wide improvements are challenging to implement quickly. The graphic below outlines goals to work towards strategically, using the prioritization process that follows.

Goal	 100% ADA accessibility	 Balance access and efficiency with total # of stops	 Right-size amenities using the Model	 Reflect neighborhood identity through design when feasible
Description	At a minimum, every bus stop should consist of an easily identifiable bus stop sign and an accessible paved boarding area.	Stops should be spaced to maximize efficient transit operations, while not requiring passengers to walk/roll more than ¼ mile to a bus stop.	With limited resources for capital, maintenance, and staff time, it is not feasible to add a shelter to every stop at this time. Stop improvements must consider resources needed for maintenance and ongoing trash service.	The design of bus stops should be context-sensitive and may incorporate elements that reflect the identity of the neighborhood (such as art, unique shelter or bench designs, or other elements as appropriate and feasible).

**Figure 4** below shows the progress that has been made toward accessibility and amenities in the last five years. At the current rate of progress, it will take about 15 years to achieve ADA

accessibility at all bus stops and about 3-5 years to add seating (bench or shelter) at all stops with 10 or more riders per day.

FIGURE 4: AMENITY IMPROVEMENTS PER YEAR BY TYPE



# Prioritization (location + amenity type)

## Community Priorities

Lawrence Transit staff communicates with the riding and non-riding public through various avenues including formal public input surveys, the Public Transit Advisory Committee, tabling events, emailed feedback, and while riding the bus. Through these avenues, staff aims to understand more about how to meet the needs of transit riders, provide a comfortable and pleasant passenger experience, and balance expectations of the Lawrence community as a whole.



In recent years, community members have shown a desire for improved bus stop amenities by adding community-provided seating at bus stops throughout the city. Lawrence Transit recognizes the need to prioritize improvements that meet rider accessibility and comfort needs, understanding that it is feasible to make about 20-30 bus stop improvements per year. Lawrence Transit is also piloting a Community Partnership Bench Program where individuals or groups can build or paint benches for installation at ADA accessible sites. To learn more, visit <https://lawrencetransit.org/projects/bus-stops/>

Our neighboring transit systems, [Topeka Metro](#) and [KCATA](#), set amenity standards based on how many riders use each stop daily. Both systems recommend a bench when 25 or more daily riders use a stop. KCATA recommends a shelter at 50 or greater daily riders and Topeka Metro recommends a shelter at 100 or more.

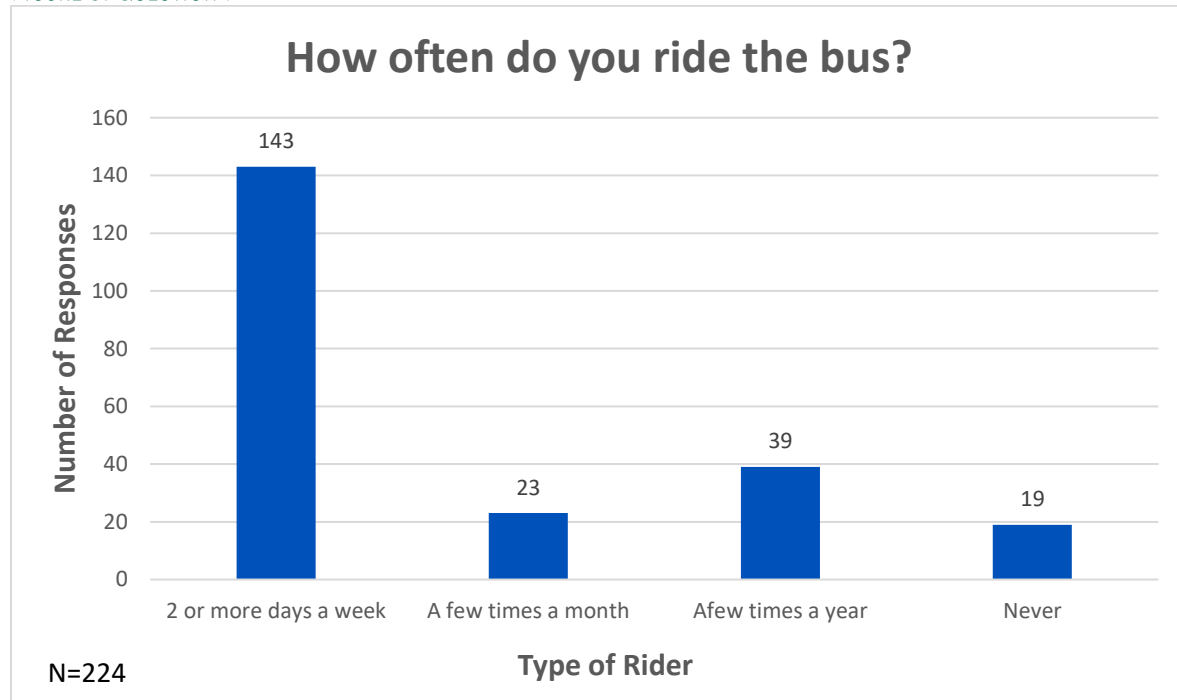
Currently, Lawrence Transit recommends a bench at around 10 daily riders and a shelter at around 25 daily riders. These numbers are used as flexible guidelines for amenity types, and additional consideration is given based on context as described in the **Context Considerations** section below.

## Bus Stop Improvement Program 2022 Survey Analysis

To seek better understanding of rider and community priorities as it relates to bus stop improvements, Lawrence Transit engaged riders and non-riders in a short survey. Between October 21, 2022 and November 18, 2022, staff gathered surveys from 224 respondents through in-person engagement at the Downtown bus transfer area, on buses, and a Lawrence Listens survey made available online. Both paper and online responses are represented in the data below. To view full data sets and a blank copy of the survey see **Appendix A: Blank Survey** and **Appendix B: Summary of Survey Responses**.



FIGURE 5: QUESTION 1



Full data in **Appendix B: Summary of Survey Responses**

In this survey, 74% of responses came from frequent riders (2 or more days a week and a few times a month). Around 92% of responses came from individuals who ride the bus at least a few times a year. This question was the only required question. All other questions were optional and may not have been answered by each participant.

When asked, “What strategy do you think we should take when improving bus stops?” 187 participants responded. Participants were given these three choices and asked to rank them:

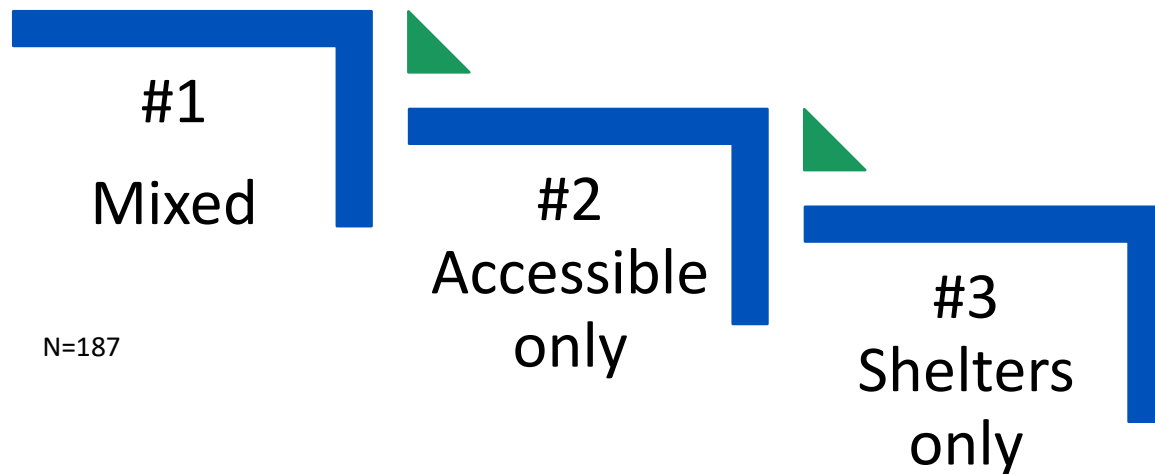
- **Mixed:** a mix of benches, shelters, and accessibility. This is what we have been doing since 2020. Seating goal accomplished in 3-5 years. Accessibility goal accomplished in 15 years.
- **Shelters only:** Shelters are more expensive which means we would do half as many improvements per year. All shelter sites are also accessible. Seating goal accomplished in 7-10 years. Accessibility goal accomplished in 30 years.
- **Accessible only:** We could focus on improving all stops to ADA standards more quickly than with the mixed strategy, but with no additional seating. Accessibility goal accomplished in 3-5 years.

The majority of participants ranked the options as follows:



## Ranked Preference for Bus Stop Improvement Strategies

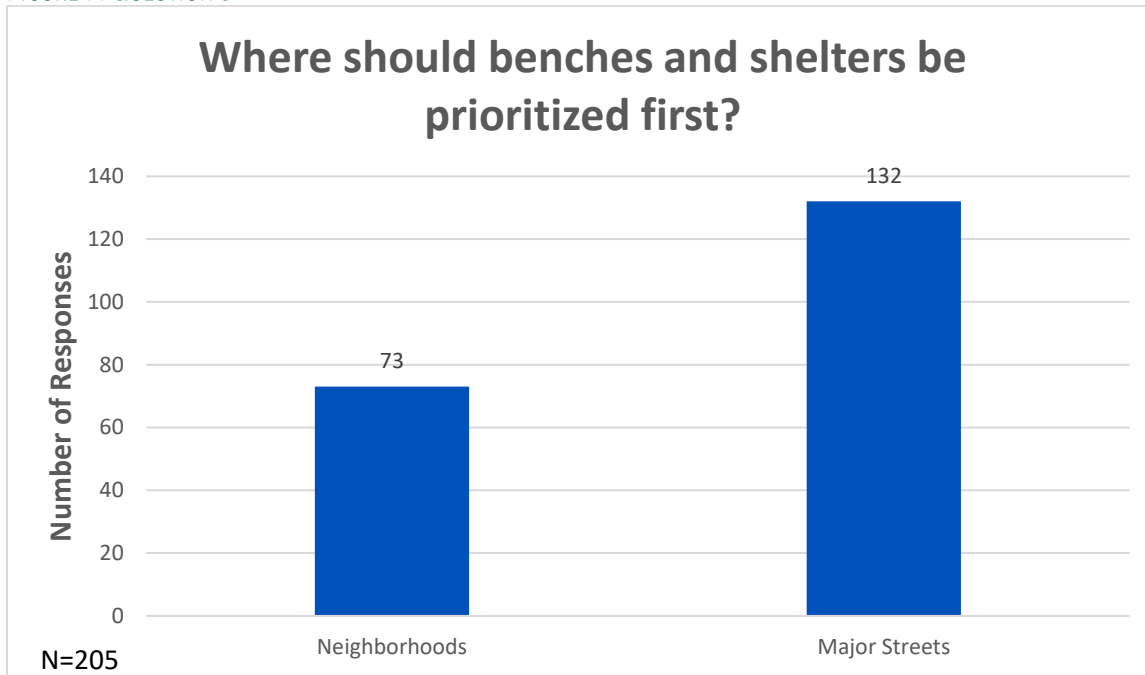
FIGURE 6: QUESTION 2



Full data in **Appendix B: Summary of Survey Responses**

Lawrence Transit currently employs the Mixed approach for annual bus stop improvements. We can infer from survey responses that, with our bus stop improvement budget of \$150,000 per year, participants prefer that Lawrence Transit provide a mixture of benches, shelters, and accessibility each year, followed in priority by increasing the number of ADA accessible bus stops throughout the system. Though some individuals mention wanting shelters at each stop, when given full budget and prioritization information, survey participants would prefer to see more improvements of varying types (benches, shelters, and accessibility) completed more quickly, instead of a more expensive 'shelters only' approach that would take twice as long to implement.

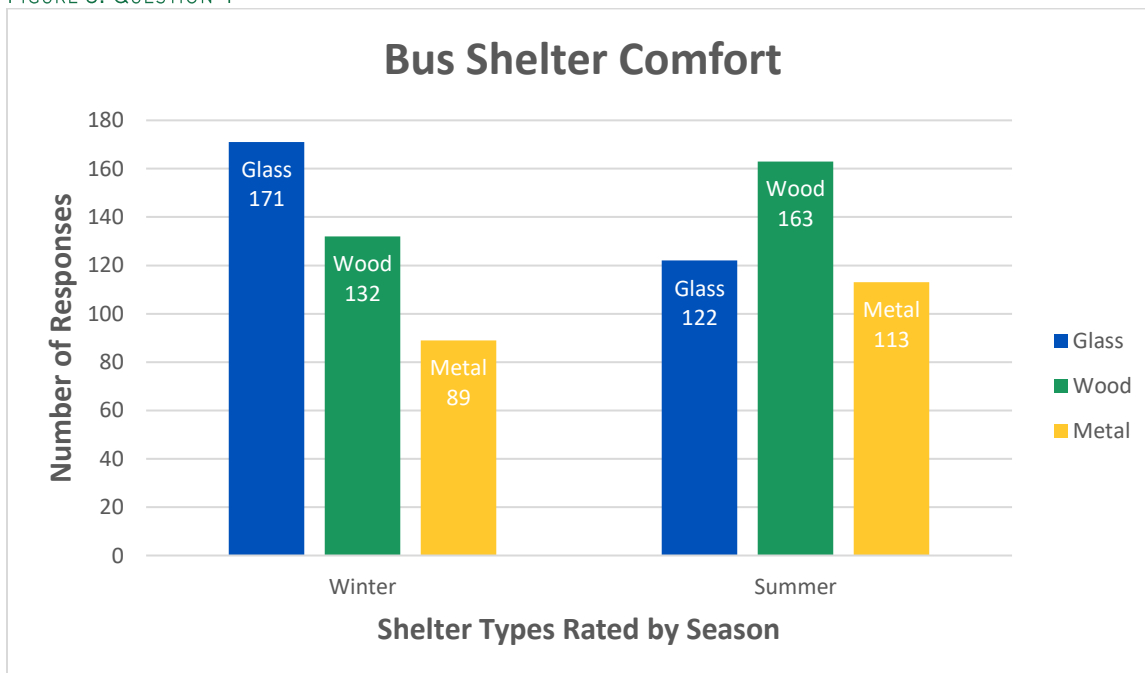
FIGURE 7: QUESTION 3



Full data in **Appendix B: Summary of Survey Responses**

When asked where LT should prioritize bench and shelter installation first, 64% of respondents for this question selected Major Streets. This set of responses provides good insight to Transit Staff and will guide future rounds of bus stop improvement planning.

FIGURE 8: QUESTION 4



Full data in **Appendix B: Summary of Survey Responses**

Participants were asked to rate their experience with three different shelter types in winter and summer on a scale from one to five, with five being the best experience and one the worst. The scores above are the combined count of scores rated three, four, and five from 184 participants. As a score of three is average, it stands as the minimum acceptable level of comfort for new amenities.

As shown in the responses above, providing shelters that are comfortable in all seasons is a challenge. While glass shelters were rated highest in winter for blocking the most wind, they rate considerably lower in the summer due to increased temperatures inside the glass shelter.

Staff also considers annual and lifetime maintenance costs of each amenity when planning for bus stop improvements. Glass shelters have the highest maintenance costs annually, as the glass panes need cleaning weekly and are prone to being broken. Wooden shelters do provide a good level of comfort across seasons but will likely need to be replaced more often due to degradation of materials, making lifetime costs higher. The metal shelters rate lower overall but have the lowest maintenance cost both annually and over time. With all these factors present, LT staff are likely to continue to provide a mix of the three existing shelter types as well as researching other options that may provide a better ratio of lifetime cost to comfort.

For a full list of comments provided via survey, see **Appendix C: Survey Comments**.

## Bus Stop Improvement Model

Lawrence Transit created a GIS-based Bus Stop Improvement Model to prioritize stop locations that would be good candidates for improvement each year, and it provides a rank ordered output of stops. It does not dictate what amenity type is appropriate at each stop as a number of factors can determine what amenity is the correct fit.

This model helps transit-planning staff go beyond selecting sites based on ridership alone and brings in census data like a transportation disadvantaged score and Environmental Justice zones. These additions provide a balanced approach that ensures our most disadvantaged populations are prioritized for transit amenities.

For more information on amenity selection, see the **Amenity Type Selection** section below.

The model assesses bus stop level data, including:

- Average boardings per day
- Existing amenities
- [Pedestrian Access to Priority Destinations](#)
- [Transportation Disadvantaged Score](#)
- [Equity Score](#)

## Context Considerations

Following the objective scoring of the Bus Stop Improvement Model, additional factors are taken into consideration that are difficult or impossible to score with the GIS-based model. These context considerations include a site visit to evaluate physical site limitations and a review by bus operators to gain insight from frontline transit workers. During this stage of the process, staff evaluate right-sized amenity types to provide the most comfort for the most riders and be responsive to land use context.

### Site Visit

Transit planning staff look for a variety of features in a good bus stop location.

- Right-of-way availability
- Pedestrian access
- Existing ADA accessibility
- Safety of riders
- Bus route operational characteristics
- Stop spacing
- Land use
- Routing design and turning requirement

### Bus Operator Review

Lawrence Transit also seeks feedback about placement of new stops and potential amenities from highly skilled bus operators. They work with riders on routes every day and have insight into what makes a site successful.

### Amenity Type Selection

Once the prioritized locations are selected, staff begins evaluating right-sized amenities to meet rider comfort needs and fit the land use context. In general, the more daily riders a bus stop has, the higher priority it is for amenities. As mentioned in the **Bus Stop Improvement Model** section, EJ zones and Transportation Disadvantage scores affect prioritization. Lawrence Transit also considers the passenger types who frequently use specific stops. For example, people using stops near senior facilities, schools, or disability centers would likely benefit from additional amenities.

Amenity Type	Considerations
Bus stop sign	Include at every improved stop
ADA boarding pad	Include at every improved stop Requires 5' x 8' boarding pad from face of curb
Bench	Must include 5' x 8' boarding pad 10+ passengers per day Requires sufficient right-of-way for 4' x 10' pad Requires 2.5' x 4' clear space adjacent to bench for ADA access Can be challenging context near single family home



Shelter	Must include 5' x 8' boarding pad 25+ passengers per day Requires sufficient right-of-way for 6' x 14' pad Can be challenging context near single family home
Bike rack	Include at shelter or bench stops near bikeways Consider natural surveillance for vandalism/theft safety Requires 4' x 6' space per U-rack
Trash can	Include at all shelter locations May include at bench locations, depending on need
Map/route information	Include at glass shelter locations with integrated information box
Supplemental lighting/shade	Include solar lights when location lacks nearby streetlights Include post-improvement tree to provide shade in summer

# Implementation

## Design, Bid, + Installation

To ensure all improved stops are structurally sound and ADA accessible, Lawrence Transit works with engineers to create construction drawings for each bus stop improvement. Local contractors then bid on these designs. After a contractor is selected, construction can begin. MSO and Transit staff manage these projects, with assistance from Parks & Recreation.

### Did you know?

Improving a stop takes about one year from design to installing amenities like benches or shelters.

## Anatomy of a Bus Stop

Adding amenities improves the comfort and overall experience of transit riders. A stop with seating and a shelter is much more inviting than a stop that consists of only a sign. Depending on land use, ridership, and the type and function of stop, amenity infrastructure may vary. Bus stops often include the following:

FIGURE 9: ANATOMY OF A BUS STOP



## ADA Compliance

To make bus stops accessible for everyone, boarding pads and a clear space next to benches and within shelters must be provided.<sup>2</sup> To provide adequate space in shelters, benches must not run the entire width of a shelter. If an overhead covering is present, it must be of sufficient length to cover a bench and the ADA clear space. To ensure full compliance on sites with elevation challenges, curb width should not be included in overall width of concrete pad.

<sup>2</sup> [ADA Compliance - ADA Compliance - ADA Compliance \(ada-compliance.com\)](#)  
[ADA Compliance - 305 Clear Floor & Ground Spaces - ADA Compliance \(ada-compliance.com\)](#)

# Bus Stop Schematics

FIGURE 10: TYPICAL BOARDING PAD

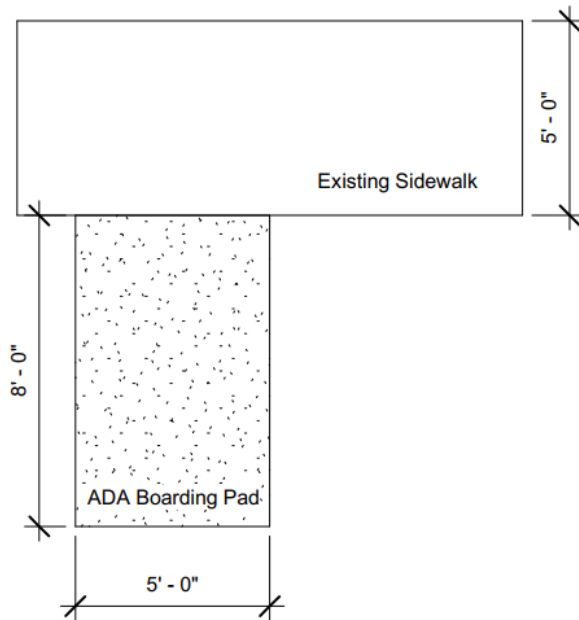


FIGURE 11: TYPICAL 6FT BENCH, ADA CLEAR SPACE, AND BOARDING PAD

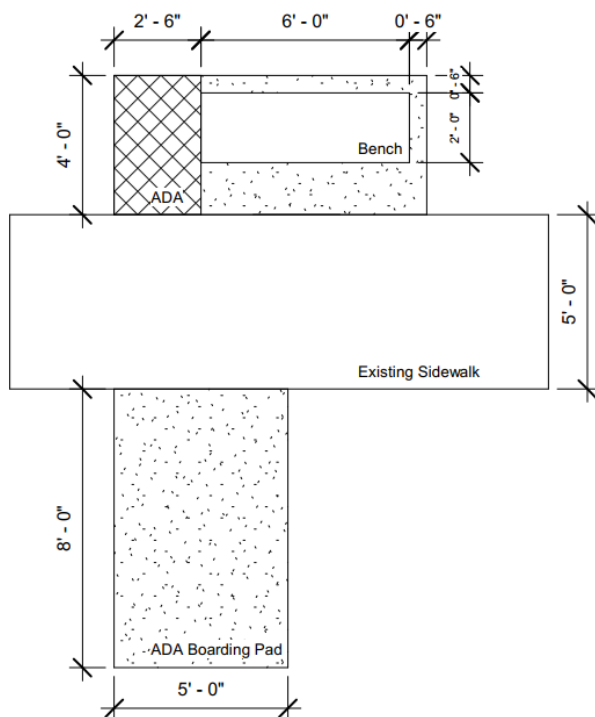


Diagram illustrating the layout of a sidewalk improvement project. The plan shows a 6'-0" wide sidewalk area with a 4'-0" section for Bike Parking, a 2'-6" section for ADA (cross-hatched), and a 6'-0" section for a Bench. A 0'-6" section is also indicated. Below this is an 8'-0" wide ADA Boarding Pad (5'-0" wide) and an Existing Sidewalk (5'-0" wide). Dimensions are given in feet and inches.





# Appendix A: Blank Survey

## What do you think about bus stops in Lawrence?

How often do you ride the bus?

- ☐ Never
- ☐ A few times a year
- ☐ A few times a month
- ☐ 2 or more days a week

What strategy do you think we should take when improving bus stops? Each has a different timeline based on what we can accomplish with \$150,000 per year. Please rank the bus stop improvement strategies below. *Rank your priorities 1-3 below.*

\_\_\_\_\_ **Mixed:** a mix of benches, shelters, and accessibility. This is what we have been doing since 2020. Seating goal accomplished in 3-5 years. Accessibility goal accomplished in 15 years.

\_\_\_\_\_ **Shelters only:** Shelters are more expensive which means we would do half as many improvements per year. All shelter sites are also accessible. Seating goal accomplished in 7-10 years. Accessibility goal accomplished in 30 years.

\_\_\_\_\_ **Accessible only:** We could focus on improving all stops to ADA standards more quickly than with the mixed strategy, but with no additional seating. Accessibility goal accomplished in 3-5 years.

Where should we prioritize shelters and benches first?

- ☐ Neighborhoods (more likely to be waiting by your home)
- ☐ Major streets (more likely to be waiting during your trip)

Do you have any other feedback about shelters, benches, bike racks, or trashcans at bus stops?

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Do you have any thoughts or comments on the Bus Stop Improvement Program – Technical Guidelines?

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Glass shelter



Wooden shelter



Metal shelter



Rate the comfort of these bus shelters (1=not comfortable, 5=very comfortable)? (Please select ONE box per row)

	1	2	3	4	5
Glass shelters in Winter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Glass shelters in Summer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wooden shelters in Winter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wooden shelters in Summer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Metal shelters in Winter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Metal shelters in summer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

# Appendix B: Summary of Survey Responses

## Bus Stop Improvement Program

What do you think about bus stops in Lawrence?

### Summary Of Responses

As of November 21, 2022, 3:30 PM, this forum had:		Topic Start	Topic End
Attendees:	221	October 13, 2022, 3:52 PM	November 18, 2022, 11:59 PM
Responses:	224		
Hours of Public Comment:	11.2		

#### QUESTION 1

How often do you ride the bus?

		%	Count
Never		8.5%	19
A few times a year		17.4%	39
A few times a month		10.3%	23
2 or more days a week		63.8%	143

#### QUESTION 2

What strategy do you think we should take when improving bus stops?

Each has a different timeline based on what we can accomplish with \$150,000 per year. Please rank the bus stop improvement strategies below.

1. Mixed ([click for more info](#))
2. Accessibility only ([click for more info](#))
3. Shelters only ([click for more info](#))

#### QUESTION 3

Where should we prioritize shelters and benches first?

### Bus Stop Improvement Program

What do you think about bus stops in Lawrence?

		%	Count
Neighborhoods (more likely to be waiting by your home)		35.6%	73
Major streets (more likely to be waiting during your trip)		64.4%	132






#### QUESTION 4

Rate the comfort of these bus shelters (1=not comfortable, 5=very comfortable)?

##### Glass shelters in Winter

		%	Count
1		8.5%	17
2		5.0%	10
3		20.1%	40
4		22.1%	44
5		43.7%	87

##### Glass shelters in Summer

		%	Count
1		20.1%	40
2		17.1%	34
3		25.1%	50
4		19.1%	38
5		17.1%	34

##### Wooden shelters in Winter



## Bus Stop Improvement Program

What do you think about bus stops in Lawrence?



### Wooden shelters in Summer



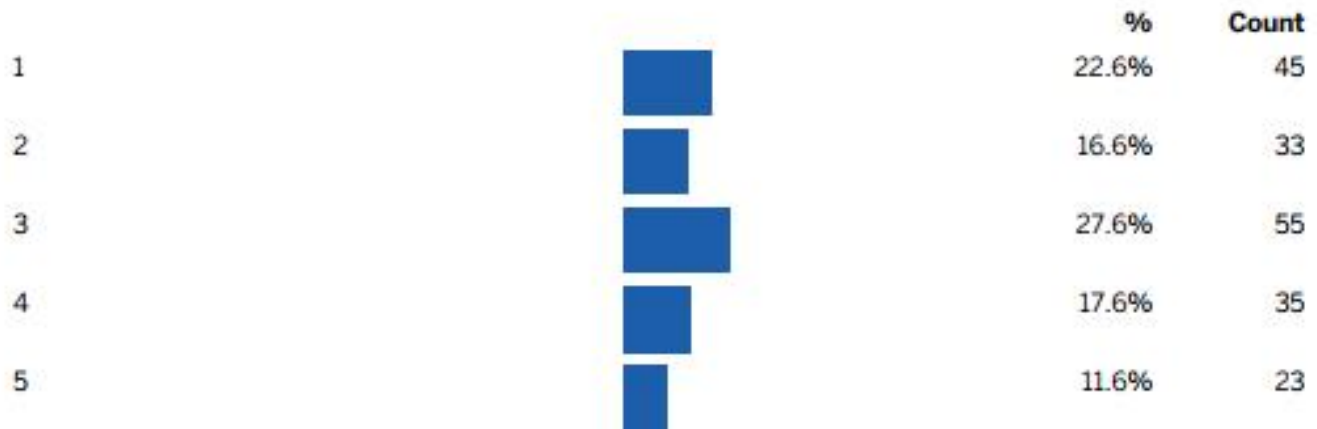
### Metal shelters in Winter



### Metal shelters in Summer

## Bus Stop Improvement Program

What do you think about bus stops in Lawrence?



### QUESTION 5

Do you have any other feedback about shelters, benches, bike racks, or trash cans?

Answered	99
Skipped	125

all also bench benches bike both bus cans could do don every from glass good like major metal more near need nice people  
provide rain s shelter shelters so stop stops streets summer t they think trash use weather wind

### QUESTION 6

Do you have any thoughts or comments on the Bus Stop Improvement Program document?

Answered	48
Skipped	176

also bus campus change could don from get going improvement improvements into lawrence less like more most one other people  
please public route routes s shelters so some stop stops t thing think transit use used very was while work

# Appendix C: Survey Comments

Do you have any other feedback about shelters, benches, bike racks, or trash cans?	Do you have any thoughts or comments on the Bus Stop Improvement Program document?
Trash cans need to be larger, so that they are not overflowing by the time they are emptied.	
Lawrence Community Shelter must have a bus stop at the location that is accessible. The shelter supports a population that often has significant health issues and physical disability. Many guests are having to maneuver manual wheelchairs uphill or walk uphill with other disabling conditions to get to the bus stop. This stop has a high number of riders that rely on public transportation to get into town for necessary resources such as appointments for mental/medical/behavioral health.	
Having shelters that protect passengers from the rain would be helpful	
Accessibility should be the first priority, followed by comfort. Many folks with disabilities do not have any other transportation options, other than accessible transit.	
I dislike the "Bus Benches and such" from the community members that are "helping"	Great job, I like the plan.
benches should be a priority to help eliminate the make shift chairs, etc. that are used, esp on major roads, no need for bike racks they cant be left at teh stop and make sure the trash is picked up and walmart carts returned...	\$150K a year is a lot of money, use tax payers funding wisely

<p>The latest community sponsored bus shelters are perhaps exciting for those who paid for them, but if they do not use them themselves they will not know that they are of no sheltering value in all weathers and winds. They are narrow both on the sides and the cover.</p> <p>Contributing community groups may not want to combine their resources to build a meaningful, i.e. functional, bus shelter. Anything contrary to that, though, is a waste of resources and does not respect the bus user.</p> <p>Planting a tree with the right canopy (not hosting biting insects, such as oak trees) could do a better job. .. But, of course, a tree will need years to grow.</p>	<p>The comment above should be enough.</p> <p>In Lawrence as a whole, the KU West Campus park &amp; ride bus shelters are the most functional. The glass shelter on the intersection of Crestline Dr &amp; Bob Billings Pkwy is also very helpful. While not all bus shelters are going to have large sheltering dimensions, the existing City glass bus shelters remain the most serving for bus users.</p>
<p>shelters area ideal but in terms of accomplishing the basics within budget constraints, benches would be a huge improvement.</p> <p>bike racks and trash cans are desirable but less critical.</p>	<p>I am glad that attention is being paid to this issue.</p>

I would like to see shelters that are customized to fit into the area (neighborhood, business district, etc.) rather than shelters that are generic. For example, you could work with the surrounding neighborhoods to customize the design of their transit stops. That would support two of the outcome areas of the City's strategic plan - Unmistakable Identity, and Strong, Welcoming Neighborhoods - while also advancing the Connected City and Safe and Secure outcome areas. As further illustration, it would be very forward thinking to work with middle and high schools to create signature transit stops near their campuses. For example, the stops that provide service near Lawrence High School could be incorporate Chesty Lion, and the stop near Free State High School could incorporate the Firebeard. Similarly, the middle schools each have mascots, and working with their students to develop a transit stop design would improve community engagement, create an unmistakable identity for these transit stops, and encourage youth to use public transit, which is critical if we are committed to growing a generation of public transit users.

I love seeing the picture of youth painting a bench on the cover page. Also, while I appreciate the use of a GIS-based Bus Stop Improvement Model to prioritize stop locations, I believe strategic investments in bus stop improvements should also be prioritized.

For instance, some bus stop locations are highly visible, and improvements at those stops would provide the public greater awareness of the bus stop improvement program. Another way to think about this is, bus stops that are situated near streets with high traffic volume should be prioritized because drivers passing by will see those improvements and be more aware of how well their infrastructure sales tax investments are being spent. This does not need to be framed as an either or prioritization decision, of course. It could be additive. That is, the highest priority for improvements might be stops that have both high ridership and high visibility.

Another strategic investment that might be missed when solely using a GIS-based Bus Stop Improvement Model is key community partnerships that increase use of public transit. For example, partnering with the Lawrence Public Library to developing a uniquely identifiable transit stop near the library would be a strategic investment. Another example might be transit stops near grocery stores. And, of course, bus stop improvements near middle and high schools would be a strategic investment.

In summary, while a GIS-based Bus Stop Improvement Model is useful, it should only be used as a guide. Other strategic considerations should also be incorporated into the decision-making process. The City's multimodal transportation commission takes an approach like this when considering the investments that are made annually to prioritize non-motorized projects (ADA curb ramps, sidewalks, curb extensions, curb extensions, shared-use paths, bike lanes, protected bike lanes, bicycle boulevards, signage, crossing improvements, and other projects that improve the built environment for people who walk, bicycle or wheel).



More trash cans near stops is always good	
	Bus 38 doesn't take us to any close grocery store, people who live in 19th street really struggle since you change route 11 too :-)
	Add buses after 8pm. Sometimes LPS activities/games go past that. And what if my family wants to go out for dinner or a movie and we can't afford a car because I work in education.
Another option I wouldn't mind seeing is rest bars like they use in some of the larger cities.	
We need shelters at every bus stop. The one across from McAllister's on 27th lacks one.	Please don't get rid of the bus stop across from McAllister's and the one by Holcomb Park. Those are the ones I use since they're the closest to me.
First off why improve anything. What percentage of the population are you trying to service. Every bus I see has usually one person the driver. Coming up now in 2023 your going to make it Free???? Why don't you also give something back to us taxpayers? Get rid of all the parking meters and give us a break, the ones who drive cars. Another idea would be to charge the folks with electric autos a tax per mile to help with the street maintenance. You really have to help out the Taxpayers who are actually paying for all these improvements.	De Fund the Bus in Lawrence. Use the money in a place that would benefit a greater percentage of the 100,000 residents of the city.
Trash cans should be at every bus stop.	There needs to be a bus stop (& sign) on 7th street going west by Amtrak (7th and New York).
None	At Emery road, the stop signs on the road that leads to the University was uprooted when school starts this semester. Please, can the signs be restored. Apartment around that area is mostly used by students. Thank you
Na	na
Most temperatures are bearable here in Lawrence. Unless there's no wind in summer, and lots of wind in winter.	

I haven't been riding the bus in KS long enough to know the comfort levels of specific shelters in specific seasons.	
*PLEASE* do away with the metal benches. They're so awfully hot in the summer and so horribly cold in the winter.	
	Wish you guys had a Sunday service as some people do have to work on Sundays and don't have a vehicle while prices for Uber or Lyft continue to rise
Please try to put shelters where there is shade during the afternoon and where there are wind breaks. The glass shelters seem to be the best to block wind on freezing days. The metal shelter looks like it would just channel wind into the shelter and allow rain and sleet to blow right in. Style should not be an issue at all. Having a light (even solar powered) would be nice.	
Any available upgrades are appreciated	No
I really like the look of the wood bus stops. I imagine they are more money and or don't last as long but they are nice to see in the city.	
Each stop needs a shelter, seen people waiting in rain and snow	
A shelter is important regardless of the materials used. The question above is a waste of time and quite silly-who cares---. Shelters -of ANY materials are better than nothing.	
There should always be a trash can by or in the shelter. The glass ones give better protection from wind and blowing rain or snow.	
I think that there should be more shelters available near streets. People can wait in their homes until the bus arrives closer to their location. However, to get back, there is less availability to shield yourself from wind and sun.	

Even though there is a trash can on each bus, a small trash can could be mounted on each bus stop sign post.	Generally the plan is helpful. Please include more information about how the number of 'boardings' at a stop influences the type of amenity installed. If there were more specifics about how to "privately" provide a bench, perhaps individuals and neighborhoods would be more apt to contribute to the improvement program.
<p>The metal shelter is BEAUTIFUL. I can't respond to the above question regarding comfort since I don't ride the busses. Once they are free in 2023, we will try them out just to see what the experience is like.</p> <p>I cannot imagine why it would take 15 years to provide bus accessibility.</p>	I sure hope you are doing this survey because you really want to know, not just to pacify us Lawrence citizens.
N/A	N/A
I think it's important that all bus stops be consistent. You mentioned that you put priority on those that pick up at least 10 or more people, but you have no idea who MIGHT be coming to the bus stop in the future. I think that they need to be protective of weather, and sturdy enough that they cannot be destroyed easily. I feel horribly for those that are standing in the pouring rain or snow waiting on a bus and there is no shelter at all for them at the bus stop. In this day and age, I don't feel comfortable picking up someone I don't know, but I truly wish that they could be better protected from the weather. Perhaps those that pick up more people could be larger? They also need to all have trash cans, that are dumped daily or every other day. If you do not provide a trash can, the trash will be on the ground.	
Just make the shelters dry inside	
Appropriate benches should be placed on the main thoroughfares wherever there is a bus stop .. when there is no bus shelter/benches, riders stand on the curb and it is dangerous as the city knows more than one rider has inadvertently fallen into the street and traffic. Locals have tried to make the stops safer by placing movable chairs away from the curb, but they inevitably end up being moved close to the curb.	

<p>The wooden shelters are trash. Can barely fit one person on the tiny bench comfortably and sitting on it still feels like you are about to fall off. Make shelters that multiple people can use both as seating and wind/sun/rain barriers. The bus shelters in downtown KCK come to mind as providing a good mix of both.</p>	
<p>You suck You've taken entire east Lawrence bus system away from seniors and ethose impaired.</p>	<p>See above. No routes to east Lawrence for seniors and impaired. YOU pulled them all. YOU suck.</p>
<p>Every bus stop should have a shelter (eventually).</p>	
<p>there should always be a place to sit</p>	
<p>If the City is going to have a bus system, shelters (including benches, bike racks, and trash cans) should have been and should be factored in to the cost of that system. They should be maintained as long as we have a bus system.</p> <p>Bus stops with higher rider traffic should be prioritized.</p>	
<p>Wooden shelters look the nicest but I worry about durability (my wooden deck is falling apart). Most important tho is to have top cover, to shelter from rain/snow and also provide shade is summer. Maybe it would save money to have more shelters that are less expensive (mostly just top cover) rather than fewer more expensive ones with sides. I would say shade in summer is most important for safety/health reasons, and sides/walls don't help at all in summer (except maybe when there is rain combined with wind).</p>	<p>I think when deciding where to distribute these amenities, please be mindful to be roughly even throughout the city, and not concentrate too much on, for example, east part of town. One thing that struck me when the new route planning was going on is how unfair the distribution or routes was. There is already a lot of segregation (economic and other) in our city, and providing less transit and less comfort in certain parts of town will over time exacerbate the segregation and harm our community. The second thought is, I think benches are the most critical and should be the highest priority. I've lived in places where most people use public transit but that's not the case here, and I sense that there is some stigma around riding the bus, so people might feel embarrassed to stand by a sign while cars are passing by. But sitting on a bench and reading or something may seem somehow less embarrassing to some people, because it is comfortable. That is, it may be thought that no one but the most desperate unfortunates would just stand waiting for a bus, whereas</p>

	sitting seems like a less miserable thing and not something that should be pitied. Maybe this seems like a strange comment and I don't think it is shameful to wait for a bus but again that's the sense I get in this community including from comments whenever the transit system gets public discussion. So it should be seen as a pleasant normal thing, not a miserable pitiful thing. The #1 thing to help with that is a bench at most stops. So that should be highest priority. Going by # of people per day is not quite right because at the very popular stops, people waiting can't fit into shelters anyway.
Trash cans need emptied more often or provide 2.  Could use extra bench near or next to shelter for overflow of people. Shelters only seat 2 inside.	
Metal shelter is unbearable to sit in during the winter AND summer. Either too cold or too hot. Metal shelter provides no protection from chilly wind during the winter	Excited to see how our bus transit can grow! Happy to have Lawrence be a leader in public transit!
I think making all the bus stops ADA accessible should be a priority assuming when that is accomplished funding would switch to seating and shelters.	
They need to be cleared of homeless and trash regularly otherwise they will become eye sores and rarely used by the community	
Why are the benches so small? Like, they are really short.	
Need to put in longer benches so that unhoused people can use them to sleep and rest at night.	
High priority for benches and trash cans at or near every stop.	
	Have a shelter and/or a bench and a schedule at each bus stop
Glass helps ensure your view of bus is not obstructed. Also, deters from hidden bad behavior. Need to also	The city has a lot of homeless. Need to make sure these don't become a refuge.



provide emergency buttons there to call 911 in case of emergency & no cell phone access.	
It is a concern that they may become occupied or squatted by the transient population.	
The metal shelters are pretty unattractive. I know aesthetic isn't the first priority on a limited budget, but people do like to live in a beautiful city	
You might have some kind of contest for local residents to volunteer to build benches or shelters in neighborhoods. There is currently all kinds of crazy seating and some dilapidated benches that could be updated by residents with little or no cost to the city. Maybe local businesses could donate materials based on designs. Just an idea. I would be willing to design something, but can't really dig the holes needed to set a bench in cement. I would need help with that, but feel it would be a good addition to our neighborhood stop.	no, i think it is going pretty well. :)
Utilize the glass shelters at stops where riders are exposed directly to wicked north wind/not buildings or trees that act as a wind block.  Consider south winter sunshine and north summer sunshine when placing shelters to allow maximum amount of shade in summer months.	
Trash cans are a must, but should include a recycling option. If space allows, bike racks would be nice along busy streets near neighborhoods.	
There needs to be benches at every bus stop.	There needs to be better lighting at all the bus stops. A large reason I gave up on using public transport is because I didn't feel safe at a majority of bus stops in town in the evening.
I imagine cameras/lights would cost more than they are worth but it is discouraging to see defacement & destruction.	I realize this is not part of this questionnaire but it seems more important to increase frequency of trips, then the comfort of the stop is less important.

Glass shelters' walls should go all the way down to the floor	
Shelters should provide shelter against the elements, especially in Kansas where weather is inconsistent. The design of the metal shelters that are popping up around Lawrence do not provide enough coverage from the weather, and feels out of place and unwelcoming. I think the unique bus stops that have artistic design to them or are built by local artists have a better sense for the community and how Lawrence is different.	
The metal shelters, while aesthetically pleasing, are not functional for the rain, wind, or cold. Anyone who thinks it's a good idea has not tried riding with negative windchills.	This is probably too late, but there's some problems with the route redesign. The brown 10 no longer goes to campus/downtown, with the expectation that people will change over at the 100. During commuting times, the 10 is full. In the winter, it gets packed. One solution would be to run a kind of 'express'• line in the morning and evening that takes commuters on the brown into campus.
Put decent roofs over the bus shelters & sides to ward off wind. Shelters need to reach the ground on all sides so it can protect from the sun rain snow sleet otherwise it's not really a shelter! Functional not artsy so much. Fix the roof on the shelter in front of Free State High School.	
Trash cans would be nice to have near the shelters.	The bus stop #40 on 24th Street and Eddingham needs a sidewalk. It's on grass there and on top of that, it's hilly, so it's hard to get off the bus safely. On raining days it gets unbelievably muddy. Having a sidewalk would benefit the residents that live in that area.
I'd like to comment specifically about a bus stop I can see from the building where I work. I think it's stop 216 -- outside the Allen Fieldhouse parking garage. This is a stop for the K10 bus in addition to the KU routes. Often there are 10-20 people waiting, especially in the afternoons. Currently, there is only 1 glass shelter there which can hold, at most, 2 people on the bench and 2 standing. The shelter is surrounded by bike racks that get little use. People waiting for the bus sit in the grass (not good if it rains or snows). The also try to use the bike	I think it's great that you are working to make more bus stops ADA accessible. I also think it's a good idea to move away from glass shelters. The wood and metal ones look good and, as mentioned in the report, would require less maintenance.

racks as seats, which doesn't work because they aren't meant to be seats. There are additional bike racks closer to the Burge Union which do get used, so I don't think it would be a big issue if the ones by the current shelter were removed. The shelters on Becker Drive are nice and big and surrounded by multiple benches. I think that would work much better at stop 216.	
The metal shelters + the shelters near JustFood - pretty to look at and provide minimal seating, with little to no shelter from the elements and weather.	It's sad that we have to prioritize either ADA compliance and/or accessibility OR shelter OR seating + shelter but I understand our budget only stretches so far. I also understand attracting funding and even work on the transit shelters means looking at folks who prioritize aesthetics but the 'pretty' shelters don't actually provide much shelter from the elements and weather.
i like the bars on the shelter benches.	
I think the glass shelters should be phased out. The wooden ones won't burn your butt when you set down after it's been in the sun all day	
Maybe more shelters in-between stops would help in case of rain because there are no businesses or other things to take shelter while waiting. I've put off errands because the stop closest to me has no shelter and it was raining.	Doing well so far that I know.
Prioritize both neighborhoods and major streets.	
1. 13th and Barker could use a shelter. 2. Hallmark Cards needs a bench or a closed in shelter. 3. Prioritize benches and shelters on both neighborhood streets and major streets.	
Prioritize benches and shelters on both neighborhood and major streets.  Buses should have a waiting area for those riding bikes.	
Can the time point at East Hills be reconsidered? Makes getting to work difficult - the 10 minute wait at the time	

point makes me have to leave 30 minutes earlier for work. Unable to walk the distance between the stops.	
The mixed priority is good.	
A lot are broken and haven't been fixed in a while.	I think if it's going to happen, things need to be maintained also.
Nope, it's good!	Just more bus stops on Iowa + 15th area.
Not enough, should be plenty of money and city resources	
	Not at the moment.
Make sure all bus drivers speak English	
No, new routes delays are hassle	
Some glass shelters leak during the rain, 7th and Vermont. Can they be checked on rainy days?  24/7 fixed route would be ideal	
Start small.	
I think there should be more shelters where there are benches.	
Prioritize both neighborhood and major streets for benches and shelters. Only do this if city budget can pay. It's understandable it costs money. Money doesn't grow on trees.  More hybrid and electric buses!	I'm satisfied, no complaints.
Prioritize both neighborhoods and major streets for benches/shelters.	
Shelters in Portland are round. Trimet also has heat and cooling.	
Prioritize benches/shelters on neighborhood and major streets.	

50%/50% on neighborhood and major streets for benches/shelters.	
Wooden benches would be more comfortable on all shelters.	
More shelters.	
Wooden bench seats but in glass shelters.	
Can you add cushions to shelters? More benches would be better. 27th @ Alabama, Route 7	
Shelters should include personal lockers for people who have stuff of value.  Not everyone gets to know their items are safe.	In bigger cities they have heated stops that keep people warm in the winter. I have yet to see anything like that as of yet.
	The bus routes themselves are terrible and the buses never come.
	Yes there is only one 36 bus and it goes so far off campus so that it's never there, I wish there was at least 2 so people can use it
	Adding more crosswalks near bus stops would help a lot for pedestrian to get to the bus stop at the other side of a high traffic street.
	Was very disappointed in the changes of the routes that went into effect in Aug 2022. The route 11 used to come right by my apt could get on it to change busses downtown to get to work now I have to walk from 19th St to 23rd to catch a bus. Do not understand the logic behind changing all the bus routes used to be more accessible
	Was very disappointed in the changes of the routes that went into effect in Aug 2022. The route 11 used to come right by my apt could get on it to change busses downtown to get to work now I have to walk from 19th St to 23rd to catch a bus. Do not understand the logic



	behind changing all the bus routes used to be more accessible
More trash cans!	
N/A	N/A
Increasing the amount of stops with trash cans would be nice	Some bus routes were removed before the start of the 2022 fall semester that I think takes away from a lot of ku students. There used to be a route that stopped by the football stadium and circled made a figure 8 around campus. I used that bus route almost everyday M-F in the 2021-2022 school year and I know my housemates and neighbors also used that route very frequently. The buses that took that route were almost always very filled so I know they were helpful for many and I would really love if we could get that route back.
	corpus bus stop please, I live on campus and don't have a car
	Please add a bus stop at the McClains market at the top of the hill at KU. There aren't any stops between engineering and Wescoe and a stop at McClains would be perfect. You could arrange a funding deal with them since you would be bringing their business more customers as well. The current distance between those stops also makes accessibility difficult for students with disabilities or limited mobility.
I would love no smoking signs that can't be removed by riders . Permanent signs please ... People tear the old signs down and smoke inside of the shelters.	
Installing those items (bench, trash can etc) you mentioned are reasonable, but throughout the year	Our current bus stops are typical and reasonable asset like other cities. I'm more concerned of bus routes. Please don't reduce or change #27 which goes between Haskell through some neighborhoods and to KU campus.

please maintain and keep them cleaned for the users is very important.	Those neighborhoods have many rental property and apartments that primarily serve students. Please validate their efforts for going to school while working as well by not cutting/changing this route.
	<p>You no longer service the East Side of Lawrence. There is only one stop that goes south on 15. NONE to library. It sucks for elderly and disabled. We have to walk up to 7 blocks to get to bus stop in rain, snow and ice along with freezing weather. There are NO shelters.</p> <p>Your once wonderful service is totally gone. Blame Ginger.</p>
Trash cans at all stops	There are NO improvements in East Lawrence. And no service. Especially to library.
I think it would be helpful to provide some guidance or a policy (on the website) for what the options are when both bike rack slots are already occupied for a new rider trying to board with a bicycle. For instance: if both bike rack slots are occupied and the ADA space on the bus is not occupied, a rider may board with a bicycle and utilize that space until a wheelchair user boards.	
we need a bus bench at 7th and Lyons so we dont have to wait in the cold weather	
I believe shelters are a necessity due to rain, snow, hail and all weather conditions. Benches as well!	Thank you for taking time to ask for my thoughts on improvement!
If it's possible to shield from cold or extreme heat	
Stops at top of hills	
Bus shelter to avoid the weather by Mass. It would be nice to have a shelter at every stop.	
I love the artwork on glass shelters!	