

# MILWAUKIE COMPREHENSIVE PLAN IMPLEMENTATION COMMITTEE

## MEETING PACKET #7

**To:** Milwaukie Comprehensive Plan Implementation Committee Members

**From:** Vera Koliass, Senior Planner

**Subject:** CPIC Meeting Packet #7

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Hello Milwaukie Comprehensive Plan Implementation Committee members,

Thank you in advance for preparing for this Comprehensive Plan Implementation Committee (CPIC) Meeting. The seventh CPIC meeting is scheduled for April 15th, from 6 – 9 PM. Important Note: Due to public health concerns, this meeting will be held entirely over Zoom. Please do not plan to attend this meeting in person. City staff will send an email to you with your individual Zoom panelist link. Please log in to the meeting approximately 15 minutes early to avoid any potential technology issues.

Please review the information provided in this packet thoroughly in advance of the meeting. We will have a full agenda and look forward to receiving your guidance on these topics. Additionally, it may be helpful to keep a copy of this packet close by in the event that technology does not cooperate as we intend. We will reference packet page numbers when we are discussing specific items.

### **Request for Review and Comment on Meeting Packet Materials**

In the spirit of working quickly and efficiently to meet our project deadlines, careful review of meeting packet materials is essential. It is expected that CPIC members come to each meeting prepared having read the materials and ready to discuss each topic in detail.

### **Summary of Public Outreach Efforts**

For the virtual open house (open until April 15<sup>th</sup>), we have coordinated the following outreach efforts to let people know about it and to encourage them to participate:

- **Email blasts**
  - Members of all boards and committees (x2)
  - Residents of: Hillside Park, Waverly Greens apartments, and Axeltree apartments
  - Northwest Housing Alternatives
  - BIPOC email list, including one in Spanish (25+ on the list (x2)
  - Subscribers of the project email list (60 subscribers)
  - Subscribers of the Comprehensive Plan email list (500+ subscribers) (x2)
  
- **Staff-facilitated virtual meetings**
  - Each NDA
  - City employees (city residents)
  - BIPOC group – English and Spanish
  - Open public meeting (city Facebook and NextDoor)

- **Project updates during worksessions**
  - Planning Commission
  - City Council
- **Miscellaneous**
  - Bookmarks at Ledding Library
  - Pilot articles (x2)
  - City social media posts: Facebook, Instagram
  - Registrants on Engage Milwaukie received an automatic notification

The primary objectives for CPIC #7 are to:

1. Opportunity to learn more about the larger efforts to implement all portions of the Comprehensive Plan
2. Share updates on survey responses and public engagement activities
3. Review list of known amendments
4. Confirm direction on zoning map
5. Opportunity to learn more about and ask questions:
  - a. Parking Inventory and Occupancy Survey
  - b. Draft Tree Code
  - c. Open Space Requirements/Natural Resources
  - d. 3D siting of middle housing in neighborhood context

**CPIC Meeting Packet #7 Materials List**

Number	Packet Item
1	Agenda (this document)
2	Attachment A: Comprehensive Plan Implementation – Phases Memo + attachments
3	Attachment B: Executive Summary – Parking Occupancy Study
4/5	Attachment C/D: Parking Inventory / Parking Occupancy Reports
6	Attachment E: Draft Tree Code outline
7	Attachment F: Neighborhood Open Space memo
8	Attachment G: March 18 CPIC meeting notes

If you have any questions on the materials in this packet, please feel free to contact me via phone or email, my information is listed below. We are grateful for your participation in this important work.

Thank you,  
 Vera Kolas, Senior Planner  
 koliasv@milwaukieoregon.gov  
 503-786-7653

### Milwaukie Community Vision

*In 2040, Milwaukie is a flourishing city that is entirely equitable, delightfully livable, and completely sustainable. It is a safe and welcoming community whose residents enjoy secure and meaningful work, a comprehensive educational system, and affordable housing. A complete network of sidewalks, bike lanes, and paths along with well-maintained streets and a robust transit system connect our neighborhood centers. Art and creativity are woven into the fabric of the city.*

*Milwaukie's neighborhoods are the centers of daily life, with each containing amenities and community-minded local businesses that meet residents' needs. Our industrial areas are magnets for innovation, and models for environmentally-sensitive manufacturing and high wage jobs.*

*Our residents can easily access the training and education needed to win those jobs. Milwaukie nurtures a verdant canopy of beneficial trees, promotes sustainable development, and is a net-zero energy city. The Willamette River, Johnson Creek, and Kellogg Creek are free flowing, and accessible. Their ecosystems are protected by a robust stormwater treatment system and enhanced by appropriate riparian vegetation. Milwaukie is a resilient community, adaptive to the realities of a changing climate, and prepared for emergencies, such as the Cascadia Event.*

*Milwaukie's government is transparent and accessible, and is committed to promoting tolerance and inclusion and eliminating disparities. It strongly encourages engagement and participation by all and nurtures a deep sense of community through celebrations and collective action. Residents have the resources necessary to access the help they need. In this great city, we strive to reach our full potential in the areas of education, environmental stewardship, commerce, culture, and recreation; and are proud to call it home.*

### Comprehensive Plan Implementation Committee Charge

The CPIC will support the City by helping to involve a variety of different stakeholders in the decision-making process, offering feedback on a code audit and draft code concepts and ensuring that the diverse interests of the Milwaukie community are reflected in the code and map amendments.

The CPIC are the primary liaisons to the Milwaukie community, and are expected to provide feedback on public involvement efforts, code concepts and amendments, and advance recommendations to the Planning Commission and City Council.

The CPIC will interact with City of Milwaukie staff, particularly the Planning Division and its consultant team. The CPIC will meet monthly throughout the code amendment process, with adoption of the final code package plan targeted for early Summer 2021. Subcommittees may also be established to work on specific tasks and will hold meetings as necessary. CPIC members are also encouraged to help facilitate meetings with their neighborhood district associations and other community organizations. The CPIC is encouraged to promote opportunities for public involvement, disperse information to the Milwaukie community, and solicit feedback concerning the Comprehensive Plan Implementation project.

## MILWAUKIE COMPREHENSIVE PLAN IMPLEMENTATION | ATTENDEES

### **CPIC Members**

Joel Bergman

Micah Meskel

Nicole Zdeb

Renee Moog

Sharon Johnson

Celestina DiMauro

Daniel Eisenbeis

Matthew Bibeau

Stephan Lashbrook

Ada Gonzalez

Dominique Rossi

Eugene Zaharie

Jennifer Dillan

Councilor Lisa Batey – City Council Liaison

Joseph Edge – Planning Commission Liaison

### **City Staff**

Vera Koliass, Senior Planner

Laura Weigel, Planning Manager

Leila Aman, Community Development Director

Mary Heberling, Assistant Planner

Peter Passarelli, Public Works Director

Natalie Rogers, Climate Action and Sustainability Coordinator

### **Consultant Team**

Marcy McNelly, Urbsworks, Inc.

Kimi Sloop, Barney and Worth, Inc.

Keith Liden, Land Use Planner

Rick Williams, Rick Williams Consulting

Todd Prager, Teragan

**Milwaukie Comprehensive Plan Implementation Committee Virtual Meeting (CPIC #7)**

**April 15, 2020; 6:00 pm – 9:00 pm**

By Zoom Web Conference (This meeting will be recorded and posted to the city website.)

<b>Comprehensive Plan Implementation Committee Meeting #7 - Agenda</b>		
<b>Time</b>	<b>Topic</b>	<b>Who</b>
5:45 – 6:00 pm	Login to Webinar and Conference Line	CPIC members
10 minutes 6:00 – 6:10 pm	Project updates · Overview of the process – where we are, where we are going · Brief overview of community engagement results	Vera Kolas and Mary Heberling
20 minutes 6:10 – 6:30 pm	Scope and Project Review · Multi-year implementation process/work plan · Non-regulatory housing comprehensive plan policies	Laura Weigel and Leila Aman
40 minutes 6:30 – 7:10 pm	Parking Survey · Presentation of results · Q & A	Rick Williams
30 minutes 7:10– 7:40 pm	Tree Code · Presentation of draft code outline · Q & A	Todd Prager
15 minutes 7:40 – 7:55 pm	“Open space” overview	Laura Weigel
30 minutes 7:55 – 8:25 pm	Overview of known amendments Confirmed direction on mapping 3D models of middle housing (neighborhood context)	Marcy McInnelly
20 minutes 8:25– 8:45 PM	Facilitated CPIC Discussion	CPIC members
10 minutes 8:45 – 8:55 PM	Public comment / Q&A	All
8:55 – 9:00 PM	Next Steps: May meeting – date: 5/20	Vera Kolas
9:00 PM	Adjourn	



# CITY OF MILWAUKIE

## Memorandum

**To:** Comprehensive Plan Implementation Committee

**From:** Staff

**Date:** April 8, 2021

**Re:** Comprehensive Plan Implementation Overview

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In response to questions raised about the need to implement the Comprehensive Plan in its entirety, staff wanted to take a moment to share with CPIC the entire implementation process, not just the first phase which we've been collectively focused on. Implementing the Comprehensive Plan will take a number of years – well beyond what is included in this first phase. As stated in the CPIC Charter: *With adoption of the updated Plan, the City is initiating the process of plan implementation – adopting code and map amendments consistent with the plan policies. Phase 1 implementation will focus primarily on housing, urban forestry and parking as they relate to housing, as well as compliance with House Bill 2001 (HB 2001).*

Housing code and related code regarding trees and parking is only one component of Comprehensive Plan implementation. While the CPIC has been focused on the code updates related to Comp Plan housing goals and policies there are several other strategies underway in the Community Development department that address goals and policies that do not result in code updates, but in program initiatives. (Please see the Comp Plan housing implementation matrix). In addition to what has been discussed at CPIC thus far there are a number of topics related to housing code that have yet to be addressed, such as cottage clusters and intentional housing (co-housing), which will be addressed during this phase – we just haven't gotten to it yet.

There are 12 additional sections of the Comp Plan that need to be implemented. Staff, not just Planning staff, but staff across many departments, have a six-year draft work plan that provides a draft work-in-progress overview of when the additional work will occur (See attached). We're working internally on target dates for the different components of implementation and will provide progress reports to the community and City Council on a yearly basis with our first check-in slated for this fall.

For each phase of the project there will be CPIC involvement although the composition of the CPIC will likely evolve over time based on folks' availability and interest, as well as the subject matter. For example, community members with transportation interest and/or expertise will be recruited to sit on the CPIC – Transportation Focus. The City will be completing a Housing Capacity Analysis and Housing Production Strategy in 2022/2023 and we'll need community members to assist in the process. Looking further out towards 2023/2024 we'll start assessing our goals, policies, codes, and programs around natural resources. There will be a community committee involved throughout each step of implementation.

The goal has been, and will continue to be, full implementation of the Comprehensive Plan. The plan itself took many years to complete and the implementation will take many more. The City is fully committed to accomplishing this goal.



Attachment A.1

		Phase 1	Phase 2	Phase 3	Phase 4
		2020-2021	2022-2023	2023-2024	2024-2025
		Internal Team			
<b>FOSTERING COMMUNITY, CULTURE &amp; BELONGING</b>					
1: COMMUNITY ENGAGEMENT	Lead: CMO Support: Planning				
2: HISTORY, ARTS, & CULTURE	Lead: CMO & Planning			<b>x (Historic Resources)</b>	
<b>ENVIRONMENTAL STEWARDSHIP &amp; COMMUNITY RESILIENCY</b>					
3: NATURAL RESOURCES & ENVIRONMENTAL QUALITY	Lead: Planning Support: PW			<b>X</b>	
4: WILLAMETTE GREENWAY SECTION	Lead: Planning			<b>X</b>	
5: NATURAL HAZARDS	Lead: Planning Support: Engineering				
6: CLIMATE CHANGE & ENERGY	Lead: PW Support: Planning				
<b>CREATING COMPLETE NEIGHBORHOODS SECTION</b>					
7: HOUSING	Lead: Planning Support: CD	<b>X</b>	<b>X (HCA/HPS)</b>	<b>X</b>	
8: URBAN DESIGN & LAND USE	Lead: Planning	<b>X (partial)</b>	<b>X</b>		
9: PARKS & RECREATION SECTION	Lead: Assist. City Manager Support: Planning			x	x
10: PUBLIC FACILITIES & SERVICES	Lead: PW Support: Planning	x	x	x	
<b>SUPPORTING ECONOMIC DEVELOPMENT &amp; GROWTH</b>					
11: ECONOMIC DEVELOPMENT	Lead: CD Support: Planning				

12: URBAN GROWTH MANAGEMENT	Lead: Planning				<b>X</b>
<b>SAFE &amp; ACCESSIBLE TRANSPORTATION</b>					
13: TRANSPORTATION (EXISTING)	Lead: Planning & Engineering		<b>X</b>	<b>X</b>	
<b>Bold X indicates Planning Department is the lead.</b>					

# Housing

**GOAL 7.1 - EQUITY** Enable and encourage housing options that meet the needs of all residents, with a specific focus on uplifting historically disenfranchised communities and eliminating disparities for populations with special needs or lower incomes.

	<b>Timeframe (near-term, mid-term, long term)</b>	<b>Status</b>	<b>Lead/Partnerships</b>	<b>Implementation Mechanism</b>	<b>Additional Information</b>
<b>POLICY 7.1.1</b> Provide the opportunity for a wider range of rental and ownership housing choices in Milwaukee, including additional middle housing types in low and medium density zones.	Near term	Part of Phase 1- Underway & On-going	Lead: Planning	Code Update	
<b>POLICY 7.1.2</b> Establish development standards that regulate size, shape, and form and are not exclusively focused on regulating density.	Near-term	Part of Phase 1- Underway	Lead: Planning	Code Update	
<b>POLICY 7.1.3</b> Promote zoning and code requirements that remove or prevent potential barriers to home ownership and rental opportunities for people of all ages and abilities, including historically marginalized or vulnerable populations such as people of color, aging populations, and people with low incomes.	Near-term	Part of Phase 1- Underway & On-going	Lead: Planning & CD	Code/Program	

<p><b>POLICY 7.1.4</b> Leverage resources and programs that aim to keep housing (including existing housing) affordable and available to residents in all residential neighborhoods of Milwaukie.</p>	<p>Near-term</p>	<p>Part of Phase 1- Underway &amp; On-going</p>	<p>Lead: CD</p>	<p>Program/partnerships</p>	<p>The city is in the implementation phase of the Construction Excise Tax Request for Proposal (RFP) grant program. This program will be designed for any homeowner or developer in the City of Milwaukie that would like to create new income and rent restricted middle housing. Affordability periods must be for at least 5 years with longer terms being preferred. Funding will be prioritized to historically marginalized populations, for households that make up to 80% of area median income or up to 120% of the area median income, depending on the funding source with lower levels of income ranges served or increased number of units built being preferred, and for housing that is located near public transit. The city intends to launch the RFP once the new housing code is adopted. Additionally, the Accessory Dwelling Unit (ADU) System Development Charge (SDC) and Frontage Improvement Waiver Pilot Program was passed in 2020 allowing for the SDCs and frontage improvements to be waived for 10 eligible ADU projects throughout the city. The city used general funds to backfill \$23,440 to the SDC funds to finance cover the city-controlled fees. Within the first few months of the program launch, all 10 spots were filled and a waitlist was maintained. Waivers have been allocated within five different neighborhoods throughout the city.</p>
<p><b>POLICY 7.1.5</b> Encourage development of new homes and modification of existing homes to accommodate people of all ages and abilities through use of universal design.</p>	<p>Mid-term</p>		<p>Lead: Building/Planning</p>	<p>Education</p>	<p>Potential Educational Opportunity</p>
<p><b>POLICY 7.1.6</b> Consider cultural preferences and values as well as diversity, equity and inclusion when adopting development and design standards, including but not limited to the need to accommodate extended family members and provide opportunities for multi-generational housing.</p>	<p>Mid-term</p>		<p>Lead: Planning</p>	<p>Code</p>	
<p><b>POLICY 7.1.7</b> Support the Fair Housing Act and other federal and state regulations that aim to affirmatively further fair housing.</p>	<p>On-going</p>		<p>Lead: CD/CCHA</p>		<p>The city includes language in its contracting announcements to seek out partners that aim to affirmatively further fair housing. This is a specific criteria called out in the upcoming CET RFP.</p>

<p><b>POLICY 7.1.8</b> Collaborate with community partners to provide a continuum of programs that address the needs of unhoused persons and families, including temporary shelters, alternative shelter models, long-term housing, and supportive services.</p>	Near-term	Underway & On-going	Lead: CD or CCHA	Code/Program/ Partnerships	<p>In January 2020 City Council passed code amendments to the temporary use code to allow warming, cooling and air quality shelters for houseless persons. In May 2020, a Metro measure was passed to support funding for Washington, Multnomah and Clackamas County towards supportive housing services (SHS) and permanent housing. The County has drafted a local implementation plan for the program with the disbursement of those first funds (21.33% to the Clack Co.) beginning Summer 2021. The County plans to dedicate 25% of SHS funds to those currently experiencing homelessness or having serious risk of experiencing homelessness. Staff are maintaining a list and engaging with community providers and coalitions for a better understanding of services already provided and for feedback as needs and opportunities are discussed with the County.</p>
<p><b>POLICY 7.1.9</b> Implement and support programs to reduce the displacement of renters.</p>	On-going		Lead: CD	Program/Partnerships	<p>The city has partnered with a local nonprofit, Northwest Housing Alternatives to provide emergency rent assistance to households in need since summer of 2020. \$25,000 was disbursed to residents during the first round which ended on December 31, 2021 and another round of assistance for \$25,000 is being disbursed now. The CET RFP program will include a compliance program to ensure property owners limit the maximum rents based on incomes tenants receive.</p>
<p><b>POLICY 7.1.10</b> Develop, monitor and periodically update metrics that evaluate the City's success in achieving Goal 7.1.</p>	Mid-term		Lead: Planning & CD	Develop Monitoring Metrics	

<b>GOAL 7.2 - AFFORDABILITY Provide opportunities to develop housing that is affordable at a range of income levels.</b>					
	<b>Timeframe (near-term, mid-term, long term)</b>	<b>Status</b>	<b>Lead/Partnerships</b>	<b>Implementation Mechanism</b>	<b>Additional Information</b>
<b>POLICY 7.2.1</b> Continue to research, leverage and implement housing affordability strategies that meet the needs of Milwaukie households and can adapt to changing market conditions.	Near-term/On-going	Part of Phase 1- Underway & On-going	Lead: Planning & CD	Code/Program/ Partnerships	The city continues to work on several actions within the Milwaukie Housing Affordability Strategy (MHAS). Annual MHAS updates are presented to Council as well as individual program updates as they are needed or requested.
<b>POLICY 7.2.2</b> Allow and encourage the development of housing types that are affordable to low or moderate-income households, including middle housing types in low and medium density zones as well as larger apartment and condominium developments in high-density and mixed-use zones.	Near-term/On-going	Part of Phase 1- Underway & On-going	Lead: Planning & CD	Code/Program/ Partnerships	The CET RFP program goals aim to help support housing that is available to range of incomes and household sizes. Funding will be flexible for individuals living in multi-unit housing earning up to 80% of the area median income, or for any housing type with a preference for middle housing for households earning up to 120% of the area median incomes. Funding may be available for either rent restricted only, for homeownership down payment programs, for new units, or towards rehabilitation of existing units to support universal design for aging in place. The city's established vertical housing program also supports higher density mixed use projects as well as projects that may have other funding sources that can provide affordable housing and are then eligible for CET exemptions.
<b>POLICY 7.2.3</b> Pursue programs and incentives that reduce the impacts that development/design standards and fees have on housing affordability, including modifications to parking requirements, system development charges, and frontage improvements.	Near-term/Mid-term	Partially Underway (parking/frontage improvements)	Lead: Planning, CD, PW	Code/Program	
<b>POLICY 7.2.4</b> Provide a simplified permitting process for the development of accessory dwelling units (ADUs) or conversion of single-unit homes into duplexes or other middle housing types.	Near-term	Part of Phase 1- Underway & On-going	Lead: Planning	Code	

<p><b>POLICY 7.2.5</b> Expand and leverage partnerships with non-profit housing developers and other affordable housing providers and agencies that preserve or provide new low to moderate income-housing units, create opportunities for first-time homeownership, and help vulnerable homeowners maintain and stay in their homes.</p>	<p>Near-term/On-going</p>	<p>Part of Phase 1- Underway &amp; On-going</p>	<p>Lead: CD</p>	<p>Program/Partnerships</p>	<p>The city approved a property tax exemption for Northwest Housing Alternatives for their 28-unit low-income housing development known as Walsh Commons. This development is located near Milwaukie High School and supports households earning no more than 60% of the area median income. NHA is required to complete an annual recertification for their tax exemption approval. The Low Income Housing Tax Exemption is a program that can be made available on a project by project basis (as with NHA) or can be made available to nonprofits city wide if at least 51% of the taxing districts agree to opt in. The City is in the exploratory phase of providing a citywide exemption. This would require coordination and approval of up to at least 51% of the taxing districts in the City.</p>
<p><b>POLICY 7.2.6</b> Support the continued use and preservation of manufactured homes, both on individual lots and within manufactured home parks as an affordable housing type.</p>	<p>Near-term/On-going</p>		<p>Lead: Planning</p>		
<p><b>POLICY 7.2.7</b> Support the use of tiny homes as an affordable housing type, while addressing adequate maintenance of these and other housing types through the City's code enforcement program.</p>	<p>Mid-term</p>		<p>Lead: Planning</p>		
<p><b>POLICY 7.2.8</b> Implement development code provisions to permit shelters and transitional housing for people without housing.</p>	<p>Near-term</p>		<p>Lead: CD</p>		<p>City Council approved amendments to MMC XXX allowing non residential structures to be used for temporary warming, cooling and air quality shelters for houseless persons.</p>
<p><b>POLICY 7.2.9</b> Monitor and regulate vacation rentals to reduce their impact on availability and long-term affordability of housing.</p>	<p>Mid-term</p>		<p>Lead: Planning</p>	<p>Code/Develop monitoring program</p>	
<p><b>POLICY 7.2.10</b> Work with other jurisdictions as well as regional and state agencies to identify the region's housing needs and pursue a shared approach to improve housing affordability across all household income ranges.</p>	<p>Mid-term/On-going</p>		<p>Lead: Planning/CD/ Clack Co/State</p>	<p>Develop Housing Capacity Analysis and Housing Production Strategy</p>	<p>Start Fall 2021. Complete end of 2023</p>
<p><b>POLICY 7.2.11</b> Develop, monitor, and periodically update metrics that evaluate the city's success in achieving Goal 7.2.</p>	<p>Mid-term</p>		<p>Lead: Planning &amp; CD</p>	<p>Develop Monitoring Metrics</p>	

<p><b>POLICY 7.2.12</b> When negotiating public-private land transactions, pursue the goal of reserving some portion for affordable housing where appropriate.</p>	<p>Near/Mid-term/On-going</p>		<p>Lead: CD</p>	<p>Affordable Housing is a key development goal for properties owned by the City that allow for residential housing. Coho Point at Kellogg Creek is currently owned by the City but includes 10% or units, or up to 23 bedrooms of income restricted housing up to 80% of the Area Median Income. Council has set goals for the development of 0-60% housing on city owned property on Sparrow Street and finally the City owned site with Metro at Harrison and Main is slated for affordable housing development. The City also holds some funds each budget cycle for land aquisition for the purpose of affordable housing.</p>
<p><b>POLICY 7.2.13</b> Continue to seek out opportunities to land bank for the purpose of affordable housing and perform necessary due diligence in property negotiations.</p>	<p>Mid-term/On-going</p>		<p>Lead: CD</p>	<p>The city purchased the Sparrow site that sits on the west side of the Trolley Trail near the end of the Orange Line Light Rail from TriMet for the purpose of land banking to support affordable housing. Staff plan to release an RFQ by this summer to select a development partner for site design and remedial action plan work to begin this fall.</p>

**GOAL 7.3 - SUSTAINABILITY Promote environmentally and socially sustainable practices associated with housing development and construction.**

	<p><b>Timeframe (near-term, mid-term, long term)</b></p>	<p><b>Status</b></p>	<p><b>Lead/Partnerships</b></p>	<p><b>Implementation Mechanism</b></p>	<p><b>Additional Information</b></p>
<p><b>POLICY 7.3.1</b> Provide flexibility of footprint and placement of new housing to be consistent with city goals to preserve open spaces, achieve a 40% citywide tree canopy, and protect wetland, floodplains, and other natural resource or hazard areas</p>	<p>Near-term (Trees)/Mid-term (other)</p>	<p>Part of Phase 1- Underway &amp; On-going</p>	<p>Lead: Planning Support:PW</p>	<p>Code</p>	
<p><b>POLICY 7.3.2</b> Provide additional flexibility in site design and development standards in exchange for increased protection and preservation of trees and other natural resources.</p>	<p>Near-term (Trees)</p>	<p>Part of Phase 1- Underway &amp; On-going (Trees)</p>	<p>Lead: Planning Support:PW</p>	<p>Code</p>	



<b>POLICY 7.3.3</b> Incentivize, and where appropriate require, new housing development, redevelopment, or rehabilitation projects to include features that increase energy efficiency, improve building durability, produce or use clean energy, conserve water, use deconstructed or sustainably produced materials, manage stormwater naturally, and/ or employ other environmentally sustainable practices.	Mid-term		Lead: Planning Support: PW, Building	Code	
<b>POLICY 7.3.4</b> Promote the use of active transportation modes and transit to provide more reliable options for neighborhood residents and help reduce driving.	Mid-term			Update Transportation System Plan	Scoping Project Underway 2022-2023
<b>POLICY 7.3.5</b> Increase economic opportunities for locally owned and operated businesses by encouraging the development and redevelopment of more housing near transit, shopping, local businesses, parks, and schools.	Mid-term	Next phase - Hubs Project	Lead: Planning & CD	Code	
<b>POLICY 7.3.6</b> Encourage the adaptive reuse of existing buildings in residential and mixed-use areas that can help meet Milwaukie's housing needs.	Near-term/On-going		Lead: CD	Program	Rehabilitation grants may be a funding opportunity for recipients to be awarded through the CET RFP program.
<b>POLICY 7.3.7</b> Prepare, regularly monitor and periodically update an inventory of the buildable supply of residential land that can help meet the City's future housing needs in an efficient and sustainable manner.	Mid-term/On-going		Lead: Planning/CD/State	Develop Housing Capacity Analysis and Housing Production Strategy	Start Fall 2021. Complete end of 2023
<b>POLICY 7.3.8</b> Allow for a reduction in required off-street parking for new development within close proximity to light rail stations and frequent bus service corridors.	Near-term	Part of Phase 1- Underway & On-going	Lead: Planning	Code/Program/ Partnerships	

<b>POLICY 7.3.9</b> Advocate for additional frequent transit service in areas with the potential for significant residential growth	On-going		Lead: CMO		
<b>POLICY 7.3.10</b> Develop, monitor and periodically update metrics that evaluate the City's success in achieving Goal 7.3.	Mid-term		Lead: Planning & CD	Develop Monitoring Metrics	
<b>GOAL 7.4 - LIVABILITY Enhance the ability of Milwaukie's neighborhoods to meet community members' economic, social, and cultural needs, and promote their contributions to health, well-being, and universal access and design.</b>					
	<b>Timeframe (near-term, mid-term, long term)</b>	<b>Status</b>	<b>Lead/Partnerships</b>		<b>Additional Information</b>
<b>POLICY 7.4.1</b> Implement land use and public investment decisions and standards that:					
a) encourage creation of denser development in centers, neighborhood hubs and along corridors; and	On-going/near/mid-term	Start work after current code work	Lead: Planning	Code	
b) foster development of accessible community gathering places, commercial uses, and other amenities provide opportunities for people to socialize, shop, and recreate together.	On-going/near/mid-term	Start work after current code work	Lead: Planning	Code	
<b>POLICY 7.4.2</b> Require that new development improves the quality and connectivity of active transportation modes by providing infrastructure and connections that make it easier and more direct for people to walk or bike to destinations such as parks, schools, commercial services, and neighborhood gathering places.	Near-term/mid-term		Lead: Planning/PW	Code/Update Transportation System Plan	Scoping Project Underway 2022-2023
<b>POLICY 7.4.3</b> Administer development code standards that require new housing to complement the public realm and provide for appropriate setback and lot coverage standards.	Near-term	Part of Phase 1- Underway & On-going	Lead: Planning	Code	

<p><b>POLICY 7.4.4</b> Require that multi-unit housing units have access to an adequate amount of usable open space, either on-site or adjacent to the site.</p>	Near-term	Part of Phase 1- Underway & On-going	Lead: Planning	Code	
<p><b>POLICY 7.4.5</b> Implement development and design standards to transition between lower and higher density residential development areas where the mass, size or scale of the developments differ substantially. Requirements could include massing, buffering, screening, height, or setback provisions.</p>	Near-term	Part of Phase 1- Underway & On-going	Lead: Planning	Code	
<p><b>POLICY 7.4.6</b> Reduce development code barriers for intentional communities.</p>					
<p>[Intentional Communities -- A planned residential community designed from the start to have a high degree of social cohesion and teamwork. Types of intentional communities include: rural land trusts, urban group houses, cohousing neighborhoods, student co-ops, or ecovillages.]</p>	Near-term	Part of Phase 1- Underway & On-going	Lead: Planning	Code	
<p><b>POLICY 7.4.7</b> Develop, monitor, and periodically update metrics that evaluate the city's success in achieving Goal 7.4.</p>	Mid-term		Lead: Planning & CD	Develop Monitoring Metrics	

## RESIDENTIAL PARKING OCCUPANCY STUDY – EXECUTIVE SUMMARY

### Consultant Charge

- Examine how parking typically functions in residential neighborhoods in Milwaukee.
- Analyze residential parking demand to inform decision making regarding parking in the context of the Comprehensive Plan, the zoning code, and current State level requirements.
- Estimate minimum residential parking demand through occupancy counts (on-site and within the public right-of-way).
- Calculate residential parking demand per residential unit.

### Study Areas

Sample areas within the following neighborhoods were selected in consultation with the City of Milwaukee and Urbsworks.

- Lake Road
- Lewelling
- Ardenwald
- Island Station

The four study areas were selected as a representative set of combinations of conditions, including different lot sizes, pre-war and post-war platted neighborhoods, on-street conditions, such as streets with sidewalks and driveway curb cuts, and unimproved streets (streets with planted or gravel edges instead of sidewalks and curbs).

### Methodology

- 2:00 AM parking counts represent highest level of residential parking demand.
- 10:00 AM parking counts to assess change against traditional peak demand (2AM).
- Measure across multiple metrics (by type of supply, peak occupancy, # of vehicles parked per unit and actual vehicle demand per residential unit).

### Implications of COVID-19

- COVID causing more vehicles to stay home but should not impact 2AM peak (most likely makes demand numbers conservative).
- Nonresidential demand (i.e. parking for shops, cafes, parks within neighborhoods) is likely lower than normal as evidenced in 10AM counts.

### Findings (see also Summary Table below)

- Total parking supply averages approximately 4.05 stalls per residential unit across all four neighborhoods. Within this average, Lewelling has the highest parking supply total of 4.93 stalls per residential unit: Ardenwald the lowest at 3.13 stalls per residential unit.
- Minimum parking demand averages approximately 1.99 vehicles per residential unit at the peak hour across all four neighborhoods; this includes both the on and off-street parking systems. Within this average, Lake Road has the highest demand for parking at 2.05 vehicles per residential unit: Lewelling the lowest at 1.89 vehicles per residential unit.
- On-site demand is approximately 1.52 vehicles per unit (1.44 in driveways, an additional 0.7 in surface lots).
  - The on-street parking system has low demand currently (about 0.48 vehicles per unit). As such, there is an abundance of on-street parking availability (likely due to COVID). Occupancies in the on-street supply

could be higher (post-COVID) but the user would be non-residential, and demand would occur during the mid-day, not at the 2AM peak demand for residential parking.

- Much of on-street parking supply is unimproved, which could reduce on-street supply if improvements were made (e.g., curbs, paving).
- There is a high percentage of residential units with multiple vehicles (3 or more) parking on-site in two neighborhoods, which was counted as part of the demand (23.5% in Ardenwald and 18.4% in Island Station). It is not assumed that this high rate of vehicle ownership would continue with new middle housing demand. That said, even with this documented vehicle per unit demand number, the current parking supplies in the study areas exceed demand. On-site parking stalls reach an average of 77% occupancy at their peak hour; the on-street system reaches a peak average of 23%.
- Data from the occupancy study suggests the City take the minimum compliance approach to meet State mandate for parking requirements for new middle housing projects. According to the new regulations, a city may not require more than a total of one off-street parking space per dwelling unit.

*Summary Table: Residential Peak Parking Demand per Unit by Neighborhood and by Combined Average*

		Lake Road	Lewelling	Ardenwald	Island Station	Total
<b>Residential Units</b>		190	154	171	131	<b>646</b>
<b>Supply</b>	<b>On-Street Stalls/Unit</b>	2.37	2.64	1.20	2.18	<b>2.09</b>
	<b>Driveway Stalls/Unit</b>	1.75	2.29	1.68	1.82	<b>1.87</b>
	<b>Surface Lot Stalls/Unit</b>	-	-	0.25	0.14	<b>0.09</b>
	<b>Total Stalls Studied/Unit</b>	4.12	4.93	3.13	4.13	<b>4.05</b>
<b>Demand*</b>	<b>On-Street Vehicles/Unit</b>	0.89	0.29	0.29	0.36	<b>0.48</b>
	<b>Driveway Vehicles/Unit</b>	1.16	1.60	1.58	1.48	<b>1.44</b>
	<b>Surface Lot Vehicles/Unit</b>	-	-	0.18	0.11	<b>0.07</b>
	<b>Total Vehicles/Unit</b>	2.05	1.89	2.05	1.95	<b>1.99</b>

\*All demand observations shown represent the 2:00 AM overnight peak hour.

<sup>1</sup> Residential parking only. "Other" and garage parking excluded from this summary.



# City of Milwaukie: Residential Parking Inventory

## Summary of Findings

*February 2021 (v3)*

### 1.1 INTRODUCTION

In 2017, the City of Milwaukie adopted a 20-year vision effort, and in 2018, the City began a two-year process to update the Comprehensive Plan. The adoption of the Comprehensive Plan establishes a mandate for Milwaukie to update any lagging land use policies and practices that may be holding the City back from realizing its vision. One significant area where current policies and practices need to be updated is the zoning code. The City made it an early priority to update the zoning code in single dwelling residential areas. These areas of the zoning code will need to be amended to achieve several Comprehensive Plan goals related to increasing community diversity, preparing for population growth, protecting natural resources, and improving climate resiliency.

In support of these efforts the City of Milwaukie is interested in how parking typically functions in residential neighborhoods. A better understanding of this dynamic will help facilitate decision making regarding parking in the context of the Comprehensive Plan, the zoning code, and state level requirements.

The purpose of this report is to summarize a recently completed assessment of parking supplies in four Milwaukie neighborhoods. Data includes the format of the parking supply (e.g., on-street, in driveways) compared against the number of residential units in the neighborhood. The inventory is a catalogue of the total number of parking spaces reasonably available for the safe and efficient parking of authorized vehicles in targeted study zones. This inventory will be used to support an actual counting of parked vehicles during two time periods in February 2021, known as a parking occupancy study. A summary report of the occupancy study will be produced at that time.

The sample study zones are within the following neighborhoods, selected in consultation with the City of Milwaukie and Urbsworks (the prime consultant for the larger Comprehensive Plan Implementation Project):

- Lake Road
- Lewelling
- Ardenwald
- Island Station

### 1.2 GLOSSARY OF TERMS

<b>Building:</b>	Any built structure within a parcel intended for residential use (e.g., single family households, duplexes, and apartments) or, in some cases, non-residential use (e.g., retail, restaurant, etc.). In this case garages are excluded from this definition.
<b>Capacity:</b>	The estimated number of physical parking stalls associated with a parcel or fully inventoried supply.
<b>Carport:</b>	A roofed structure within a parcel intended for the parking of vehicles; unlike a garage, a carport does not contain walls or doors.
<b>Driveway:</b>	Any area within a parcel that is legally intended for the parking of vehicles. Driveways are identified as having an associated curb cut from a street into a parcel. A driveway will have a clearly visible apron of pavement or gravel (usually in front of a garage). A driveway must be large enough in size to accommodate a vehicle without infringing on a sidewalk or street.
<b>Garage:</b>	Any built structure within a parcel intended for the parking of vehicles. In the context of this study, garage capacity was estimated based on the width of the garage door (or number of doors, if multiple doors were observed).



- Inventory:** **Land Use** - A land use inventory is a catalogue of all residential dwelling units and non-residential units (e.g., retail, restaurant, industrial) in a designated study area.
- Parking** - A parking inventory is a catalogue of spaces that can be legally and safely used for parking. The catalogue of parking is separated by type of parking identified (i.e., on-street, in driveways, and garages).
- Parcel:** A piece of real property as identified by the county assessor's parcel number (APN) that is one contiguous parcel of real property. Individual parcels are demarcated on study area maps developed for each study area. All land uses and parking within parcels are associated with that specific parcel. See **Figure A** as an example (page 5).
- Parking stall:** An area located on-street, in driveways and carports, in surface lots, or in garages that is available to park vehicles by authorized users (hourly, daily, and/or overnight). Parking stalls need to be reasonably sized to ensure appropriate access and maneuverability.
- Ratio of stalls to units:** Calculations of the relationship of the number of parking stalls to residential units are made at different levels, including in aggregate or by type of supply (e.g., on-street, in driveways, and/or garages). This ratio is useful in examining actual physical parking built within a supply and what a code might require.
- Unit:** **Residential** - A residential unit is identified as a unique address within a parcel. This could be a single family dwelling, or multiple units within multifamily dwellings (e.g., duplex, apartment).
- Non-residential** - A non-residential unit is identified as real property within a parcel that provides services or business within a study area. This could be individual free standing businesses or services or multiple activity spaces within a shared building. Examples include workspaces, restaurants, retail spaces and event venues (if housed in a building).

### 1.3 METHODOLOGY

The inventory catalogue for residential units and parking stalls is summarized below. The inventory assembled for each neighborhood provides a large amount of data. The data has been sorted to provide metrics that are intended to inform and support future discussions regarding parking in these neighborhoods. If needed, the data can be reformatted or reorganized to assist the City and stakeholders in examining issues and developing solutions. This is the first task of a data collection effort that will soon include occupancy data, which can now be engaged with accurate inventory/supply totals.

#### Study Zone Boundaries

Study area boundaries in the four neighborhoods were developed in coordination with the City of Milwaukie and the Comprehensive Plan Implementation team. The intent for establishing study zones was to develop sample areas to collect usage data from selected neighborhoods. Outputs from collected data can serve as "typical" representations of how parking is currently provided (supply) and used (demand) in these neighborhoods. An initial consideration on boundaries for the sample areas would assume that a resident parking on-street within the center of the study zone would not have to park more than 600 feet from their primary residence (if they chose to park on-street).



## Inventory – Cataloguing Parking Supply by Type

A parking inventory is a catalogue of all parking within a study area assembled by location and type of stall. For this project, inventories were created in sample areas for each of the four selected neighborhoods. Inventory databases were established after completing the following tasks:<sup>1</sup>

- Aerial maps were used to identify all streets and potential on-street parking stalls located within study zones.
- Parcel maps were used to identify unique land parcels within each study area.
- A unique number was assigned to each city block in each study area. These unique block identifiers allowed for creation of inventory templates for use within the field by consultant crews.
- From January 11 through 16, 2021 surveyors were dispatched to each neighborhood study area to observe unique parcels and the location, type, and number of parking stalls.<sup>2</sup>
- Each parcel in the study area was visually evaluated to determine the number of buildings (properties or structures, excluding garages) and residential units located on that parcel within a numbered city block. In some cases, a single parcel had more than one building or unit.<sup>3</sup>
- Parking located within a parcel was quantified by built garage capacity and driveway capacity.<sup>4</sup>
  - **Garage capacity** was typically estimated by counting the number of garage doors located on a parcel. One door equaling the capacity to park one vehicle inside the built garage. When garage doors were wide enough to fit two cars, they were counted as such.<sup>5</sup>
  - **Driveway capacity** was estimated based on a reasonable assumption of the number of cars that could safely park on a surface that is easily identified as a driveway.
- For on-street parking, a measuring wheel was used to estimate the number of available parking stalls a vehicle could properly park on each block face. Care was taken to consider driveway curb cuts, sight lines, location of fire hydrants, and other factors in the roadway that would preclude using an area for parking. A length of 23 feet and width of 8 feet per stall guides the quantification of usable stalls. This provides for reasonable spacing, maneuverability, and safe access to and from vehicles into and out of a roadway.

<sup>1</sup> An example surveyors inventory template is attached at the end of this document.

<sup>2</sup> For on-street parking, surveyors only quantified parking stalls that were (a) reasonably usable, and (b) provided a safe and functional place to park. During the inventory collection, surveyors found numerous vehicles parked in areas that would not be considered reasonable, safe, or functional. The intent was to be conservative in cataloguing on-street stalls as these neighborhoods have large areas where curbs or sidewalks are not in place.

<sup>3</sup> Further, a few parcels had non-residential uses which were denoted.

<sup>4</sup> In some instances vehicles were parked in front lawns and other areas of a parcel. This type of parking was not included in the inventory as "capacity," as such parking is likely not allowed by code, nor would it be assumed in any time of current or future parking requirement for development. Where possible, field crews made notes in their templates to locate and describe such instances.

<sup>5</sup> As most garage doors are closed, the inventory can only estimate their potential capacity (by number of garage doors). Surveyors cannot assume whether cars are parked within the garage or not. Surveyors took care to assure that buildings identified as garages were not actually upgraded dwelling units. To this end, as they are built as garages, the inventory assumes they have capacity to serve as garages.





## 1.4 LAKE ROAD NEIGHBORHOOD

### Study Area

The sample study area for the Lake Road neighborhood is illustrated in **Figure A**.

### Public On-Street Parking

There are 451 on-street parking stalls within the study area. There are no signed time restrictions on how parking is used in the neighborhood. A user may park in a stall for an unlimited time on a typical day.

Stall Type	Stalls	% Total
<b>On-Street Supply</b>	<b>451</b>	<b>100%</b>
No Limit	451	100%

### Off-Street Parking – Parking located within a Parcel

There are 188 unique residential buildings identified in the study area accommodating 190 residential units. For parking located within these parcels, there is a combined capacity of 492 parking stalls; 160 in garages and 332 on driveways.

Two (2) buildings had more than one residential unit located within a parcel (in this case, two duplexes).

Use Type	Buildings	% Total	Units	% Total	Garage Capacity	% Total	Driveway Capacity	% Total
<b>Property Supply</b>	<b>188</b>	<b>100%</b>	<b>190</b>	<b>100%</b>	<b>160</b>	<b>100%</b>	<b>332</b>	<b>100%</b>
Single Family Household	186	98.9%	186	97.9%	157	98.1%	326	98.2%
Duplex	2	1.1%	4	2.1%	3	1.9%	6	1.8%

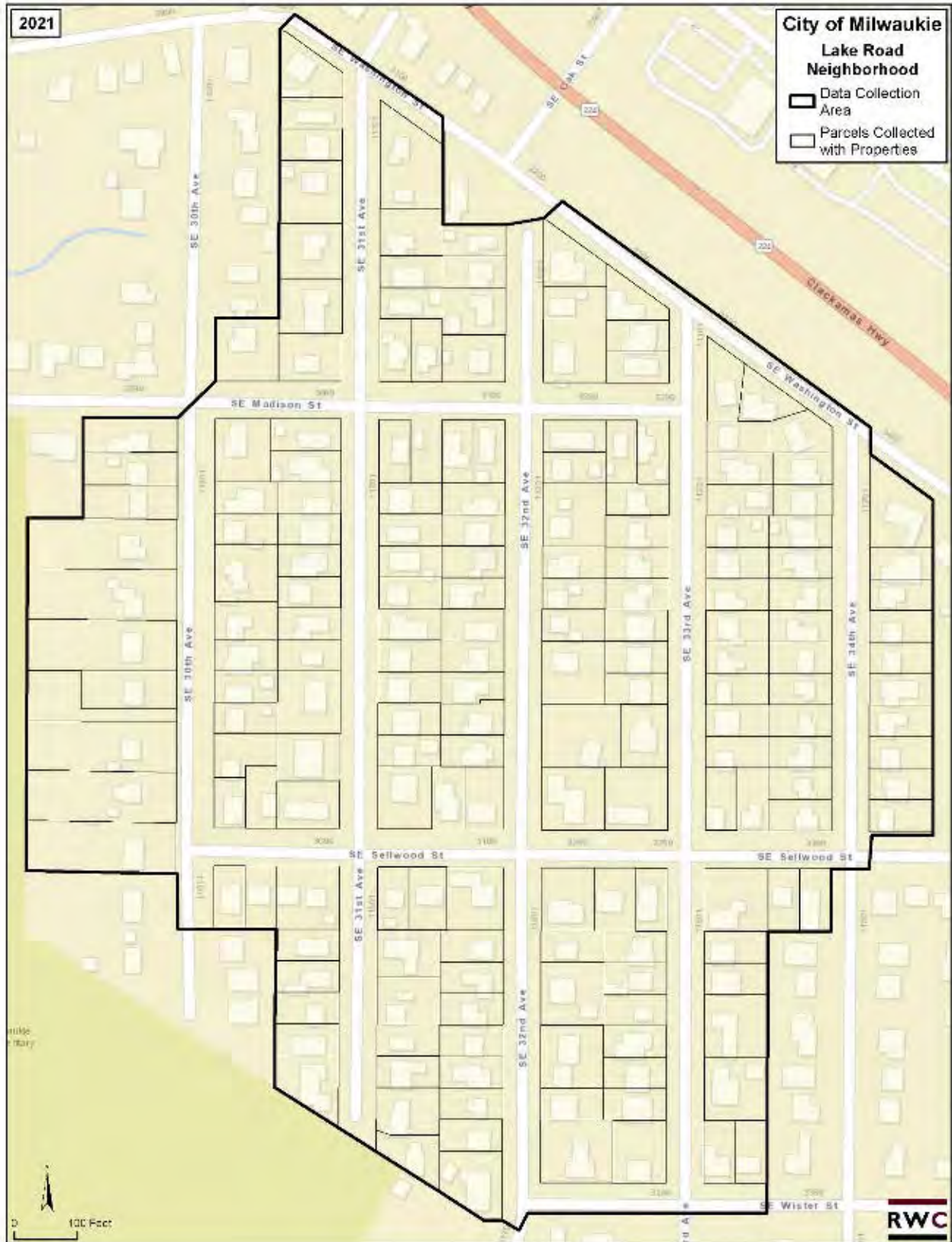
### Ratio of Usable Parking per Residential Unit – Combined Study Area

The 190 residential units within the study area are adjacent to a combined parking supply of 943 stalls. As a combined supply, the ratio of usable parking to residential units is 4.96 parking stalls per unit, which includes both on- and off-street parking. Excluding the shared on-street supply, the average parcel has 2.59 off-street parking stalls per residential unit (1.75 stalls on driveways and 0.84 stalls within garages).

	All Stalls	On-Street	Driveway	Garage
<b>Residential Uses: 190 Units</b>				
<b>Parking Stalls</b>	943	451	332	160
<b>Parking Stalls per Unit</b>	4.96	2.37	1.75	0.84
Stalls provided on-site:	<b>492</b>			
On-site stalls per unit:	<b>2.59</b>			



Figure A: Lake Road Neighborhood Study Area Boundary and Parcel Map



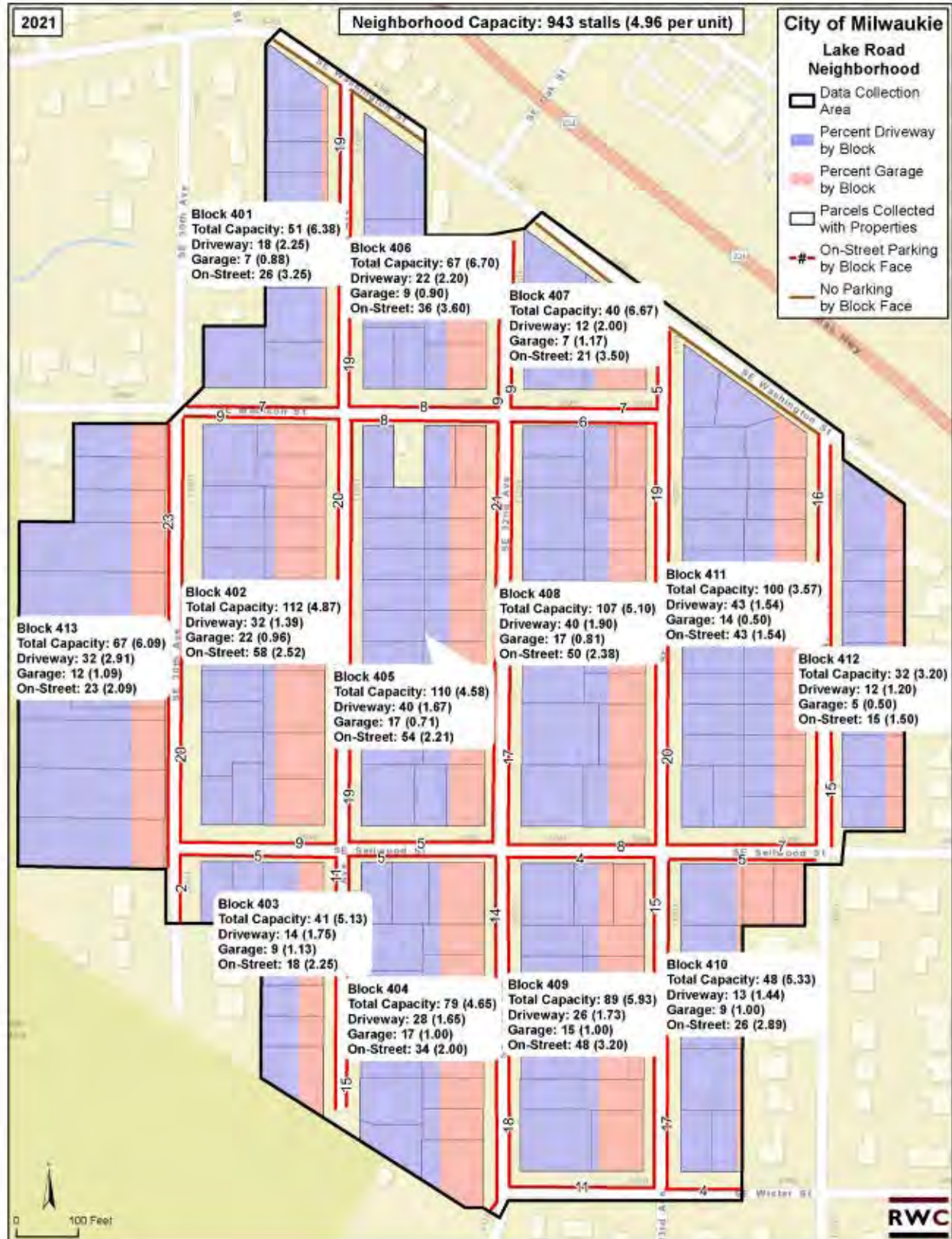


### Parking by Block

**Figure B** provides a breakout of the number of parking stalls on each city block and the ratio of parking per typical residential unit on that specific city block. For example, the city block with the highest combined number of parking stalls is Block 405 with 110 stalls. The block with the lowest combined number of stalls is Block 412 with 32 stalls. As a ratio of parking to residential units, Block 406 (at 6.70 stalls per unit) is the highest and Block 412 (at 3.12 stalls per unit) is the lowest. All unique factors that comprise the combined numbers (on-street, driveways, and garages) are provided within the Figure.



Figure B: Breakout of Parking by Numbered Block





### Field Notes - Observations

Field observation notes compiled during the inventory in this neighborhood are noted below:



- Photo at left: We found that there was a driveway/ramp (1 stall) that was turned into an ADA accessible entry that prohibits a car from parking in the garage. For this reason, the garage was not counted as capacity within the inventory.
- Middle photo: Appears as if the garage was turned into an ADU unit. The property owner has turned this property's driveway into a two-stall driveway without a garage.
- Photo at right: Found two (2) carports throughout the neighborhood that looked to be added for shelter of property owner's RV. Looks like only one (1) vehicle is reasonably parked in driveway, with one (1) garage door. Cars parked on the grass in this picture will be captured during the demand study but were not collected as part of the inventory count.
- All the on-street parking occurred on paved roads in front of mostly single-family residential houses.
- Driveways often could accommodate at least two vehicles, while many homes also had either a garage or carport for additional off-street parking.
- All the blocks had curbs for easy parking access and made it very pedestrian friendly. Observed many people out walking their dog or just enjoying a nice walk through the neighborhood.

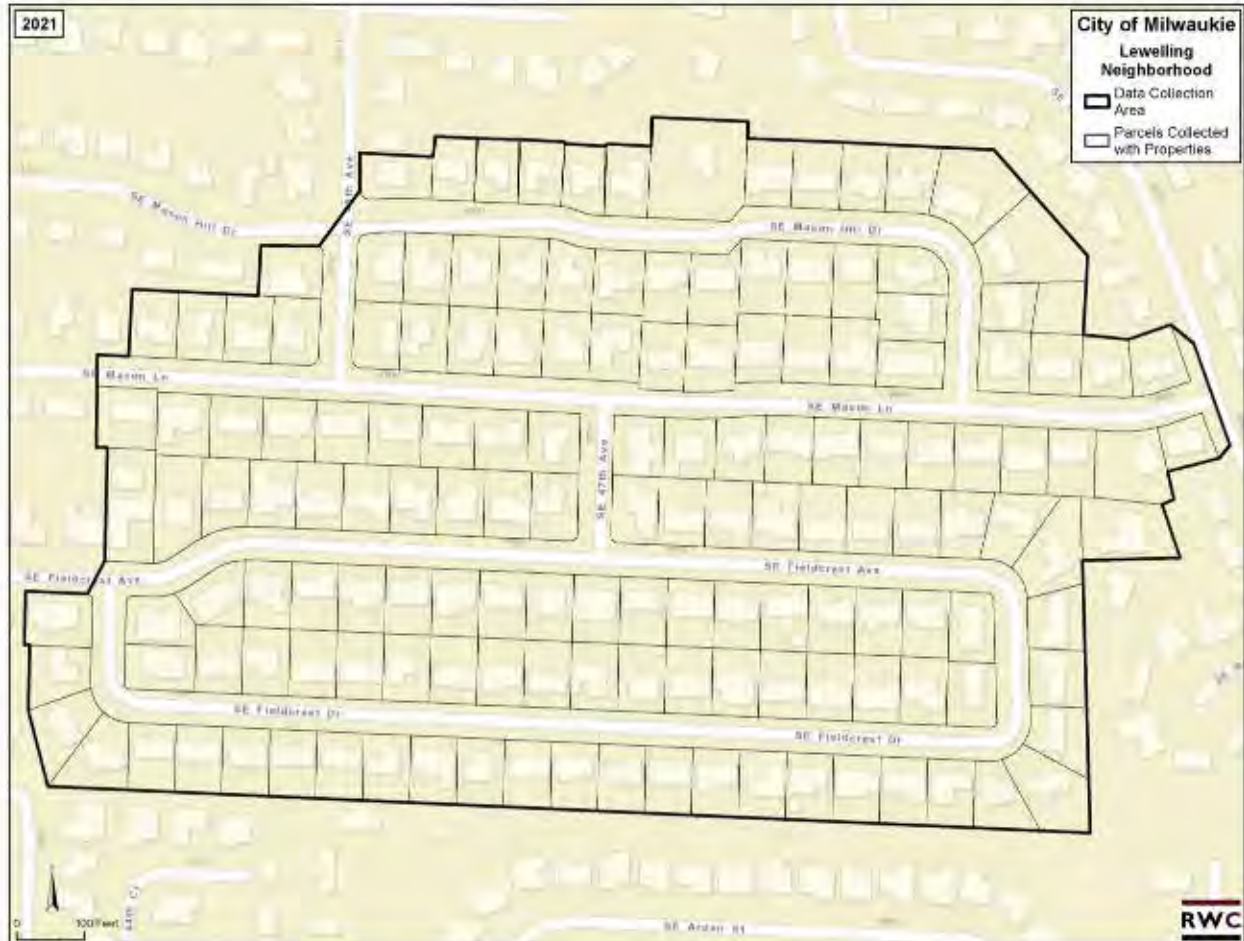


## 1.5 LEWELLING NEIGHBORHOOD

### Study Area

The sample study area for the Lewelling neighborhood is illustrated in **Figure C**.

**Figure C: Lewelling Neighborhood Study Area Boundary and Parcel Map**



### Public On-Street Parking

There are 406 on-street parking stalls within the study area. There are no signed time limits on how parking is used in the neighborhood. A user may park in a stall for an unlimited time on a typical day.

Stall Type	Stalls	% Total
<b>On-Street Supply</b>	<b>406</b>	<b>100%</b>
No Limit	406	100%

### Off-Street Parking - Parking located within a Parcel

There are 153 unique buildings identified in the study area accommodating 154 residential units. For parking located within these parcels, there is a combined capacity of 595 parking stalls; 242 in garages and 353 on driveways.



One (1) building had more than one residential unit located within a parcel (in this case, a duplex).

Use Type	Buildings	% Total	Units	% Total	Garage Capacity	% Total	Driveway Capacity	% Total
<b>Property Supply</b>	<b>153</b>	<b>100%</b>	<b>154</b>	<b>100%</b>	<b>242</b>	<b>100%</b>	<b>353</b>	<b>100%</b>
Single Family Household	152	99.3%	152	98.7%	240	99.2%	349	98.9%
Duplex	1	< 1%	2	1.3%	2	< 1%	4	1.1%

### Ratio of Usable Parking per Residential Unit – Combined Study Area

The 154 residential units within the study area are adjacent to a combined parking supply of 1,001 stalls. As a combined supply, the ratio of usable parking to residential units is 6.50 parking stalls per unit, which includes both on- and off-street parking. Excluding the shared on-street supply, the average parcel has 3.86 off-street parking stalls per residential unit (2.29 stalls on driveways and 1.57 stalls within garages).

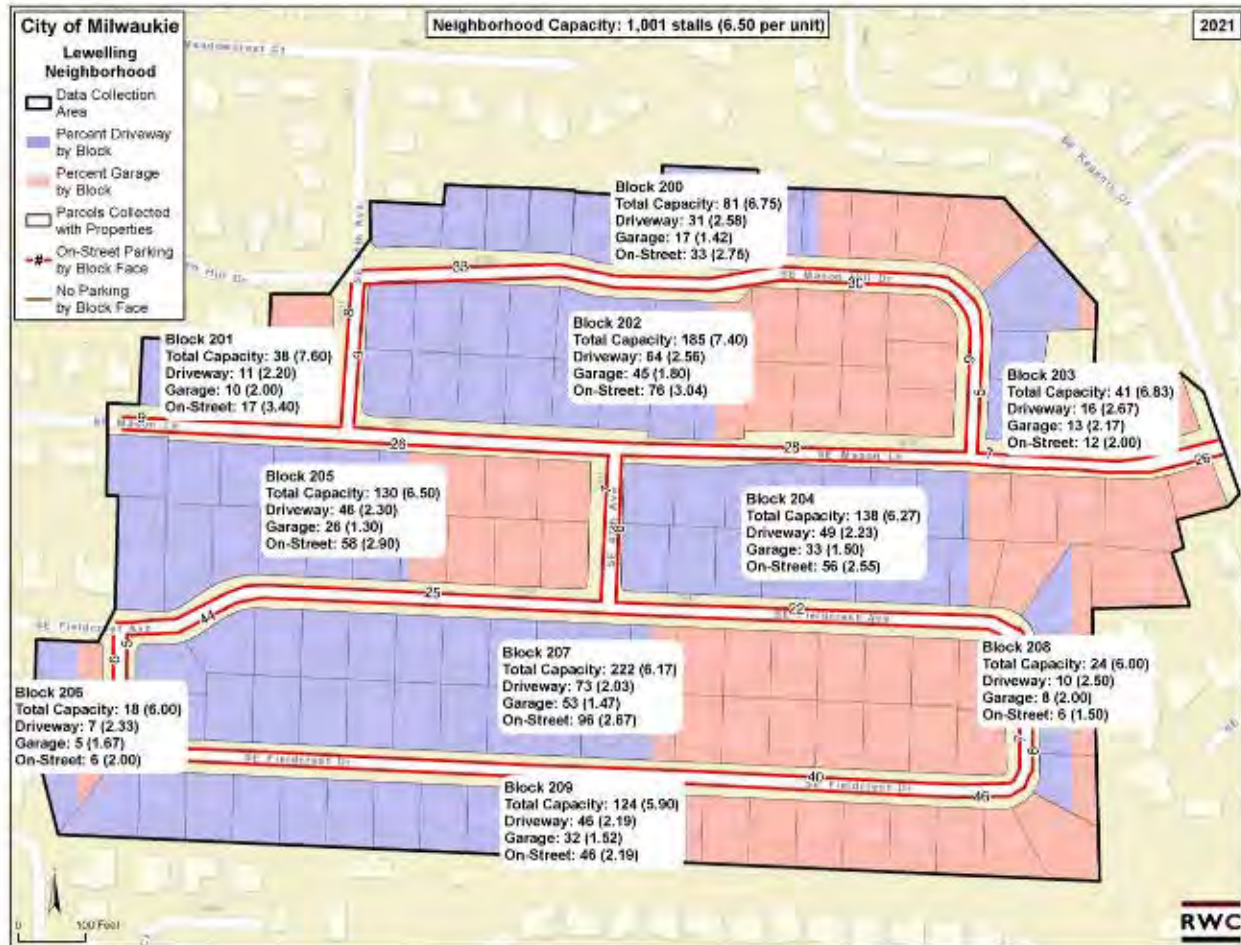
	All Stalls	On-Street	Driveway	Garage
<b>Residential Uses: 154 Units</b>				
<b>Parking Stalls</b>	1,001	406	353	242
<b>Parking Stalls per Unit</b>	6.50	2.64	2.29	1.57
		Stalls provided on-site:	<b>595</b>	
		On-site stalls per unit:	<b>3.86</b>	

### Parking by Block

**Figure D** provides a breakout of the number of parking stalls in place on each city block and the ratio of parking per typical residential unit on that specific city block. For example, the city block with the highest combined number of parking stalls is Block 207 (with 222 stalls). The block with the lowest combined number of stalls is Block 206 (with 18 stalls). As a ratio of parking to residential units, Block 201 (at 7.60 stalls per unit) is the highest and Block 209 (at 5.90 stalls per unit) is the lowest. All unique factors that comprise the combined numbers (on-street, driveways, and garages) are provided within the Figure.



Figure D: Breakout of Parking by Numbered Block







### Field Notes – Observations

Field observation notes compiled during the inventory in this neighborhood are noted below:



- It was garbage collection day when we collected inventory in this neighborhood, yet there was still plenty of available parking with little to no obstructions, regardless of the several garbage and recycling cans sitting on the street.
- All blocks had curbs for easy parking access, however, only one-third of them had sidewalks (left photo).
- All the on-street parking occurred on paved roads in front of single-family residential houses, some of which seemed very new (middle photo).
- Legal on-street parking was available on every block face inventoried in the Lewelling neighborhood. However, there was little signage to indicate illegal parking. Almost all illegal parking was determined by faded yellow paint on curbs (right photo) near the ends of blocks or by the narrowing of a street, leaving legal space either for one side or neither side of the road.
- Driveways often could accommodate at least two vehicles, while many homes also had either a garage or carport for additional off-street parking.
- With few sidewalks, pedestrians are forced into the streets leading to safety concerns. Many pedestrian and vehicle close-call encounters were observed on the inventory day, primarily in low visibility areas such as street corners.

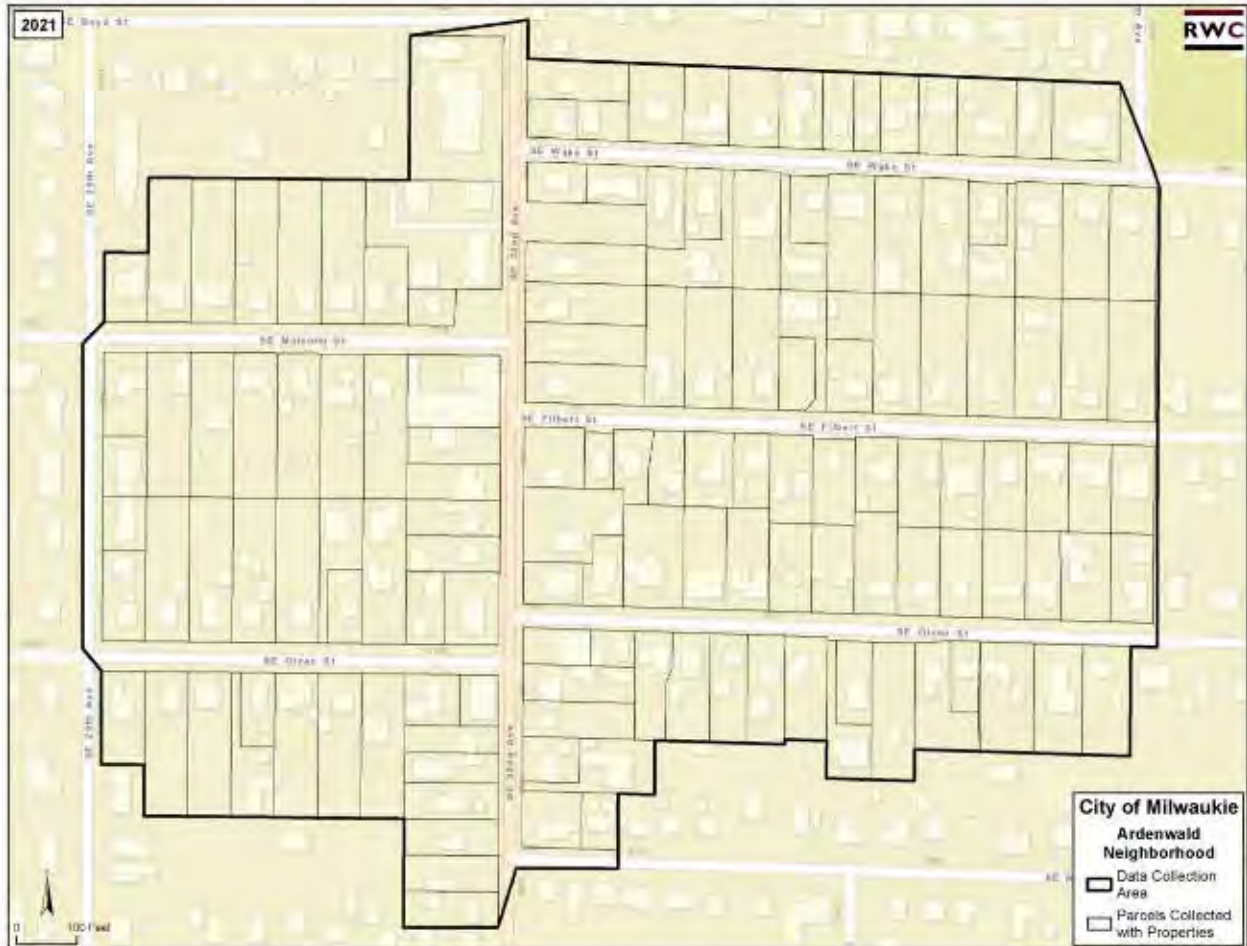


1.6 ARDENWALD NEIGHBORHOOD

Study Area

The sample study area for the Ardenwald neighborhood is illustrated in **Figure E**.

**Figure E: Ardenwald Neighborhood Study Area Boundary and Parcel Map**



Public On-Street Parking

There are 207 on-street parking stalls within the study area. Two (2) stalls were time limited: one 15-minute stall and a single 1-hour stall. The remaining parking has no signed time limits on how parking is used in the neighborhood. A user may park in a stall for an unlimited time on a typical day.

Stall Type	Stalls	% Total
<b>On-Street Supply</b>	<b>207</b>	<b>100%</b>
15 Minute	1	< 1%
1 Hour	1	< 1%
No Limit	205	99.0%



### Off-Street Parking – Parking located within a Parcel

Unlike the Lake Road and Lewelling neighborhoods, Ardenwald has several non-residential uses within its study area. Of the 178 total units identified in 147 buildings, there were two duplexes (4 units), three small apartment buildings (30 units), three retail buildings (with 3 business units), one industrial building (3 units), and one land use that surveyors denoted as undesignated (i.e., unable to identify specific use). Residential units total 171 of the total 178 units identified.

For parking located within these parcels, there is a combined capacity of 524 parking stalls: 163 in garages, 289 on driveways and 72 on surface lots; mostly associated with the apartment complex (43 stalls) and the retail units (20 stalls). The industrial and undesignated surface lot use maintained 5 and 4 stalls, respectively.

Use Type	Buildings	% Total	Units	% Total	Garage Capacity	% Total	Driveway Capacity	% Total	Surface Lot Capacity	% Total
<b>Property Supply</b>	<b>147</b>	<b>100%</b>	<b>178</b>	<b>100%</b>	<b>163</b>	<b>100%</b>	<b>289</b>	<b>100%</b>	<b>72</b>	<b>100%</b>
Single Family Household	137	93.2%	137	77.0%	156	95.7%	281	97.2%	0	< 1%
Duplex	2	1.4%	4	2.2%	0	< 1%	6	2.1%	0	< 1%
Apartment Complex	3	2.0%	30	16.9%	0	< 1%	0	< 1%	43	59.7%
Retail	3	2.0%	3	1.7%	0	< 1%	2	< 1%	20	27.8%
Industrial	1	< 1%	3	1.7%	2	1.2%	0	< 1%	5	6.9%
Undesignated	1	< 1%	1	< 1%	5	3.1%	0	< 1%	4	5.6%

### Ratio of Usable Parking per Residential Unit – Combined Study Area

The table below separates the total parking supply observed to better evaluate parking related to residential uses as opposed to parking serving the non-residential units in the study area.

The 171 residential units within the study area are adjacent to a combined parking supply of 691 stalls. As a combined supply, the ratio of usable parking to residential units is 4.04 parking stalls per unit, which includes both on- and off-street parking. Excluding the shared on-street supply, the average parcel has 2.84 off-street parking stalls per residential unit (1.68 stalls on driveways, 0.91 stalls in garages, and 0.25 stalls on surface lots).

Non-residential units in the study zone are served by a combined supply of 40 stalls, including 2 on-street and 38 in driveways, garages, and surface lots. As a combined supply, the ratio of usable parking to other, non-residential units is 5.71 parking stalls per "Other" unit. Excluding the shared on-street supply, the average site has 5.43 off-street parking stalls per "Other" unit, the majority (4.14 per "Other" unit) being on surface parking.



	All Stalls	On-Street	Driveway	Garage	Surface Lot
<b>Parking Stalls</b>	731	207	289	163	72
<b>Residential Uses: 171 Units</b>					
<b>Parking Stalls</b>	691	205	287	156	43
<b>Parking Stalls/Unit</b>	4.04	1.20	1.68	0.91	0.25
	Stalls provided on-site:			<b>486</b>	
	On-site stalls per unit:			<b>2.84</b>	
<b>Other Land Uses: 7 Units</b>					
<b>Parking Stalls</b>	1,001	2 <sup>6</sup>	2	7	29
<b>Parking Stalls/Unit</b>	5.71	0.29	0.29	1.00	4.14
	Stalls provided on-site:			<b>38</b>	
	On-site stalls per unit:			<b>5.43</b>	

### Parking by Block

**Figure F** provides a breakout of the number of parking stalls in place on each city block and the ratio of parking per typical unit on that specific city block.<sup>7</sup> For example, the city block with the highest combined number of parking stalls in Block 313 (with 165 stalls). The block with the lowest combined number of stalls is Block 312 (with 47 stalls). Contributing to this may be that Block 312 has no on-street parking.

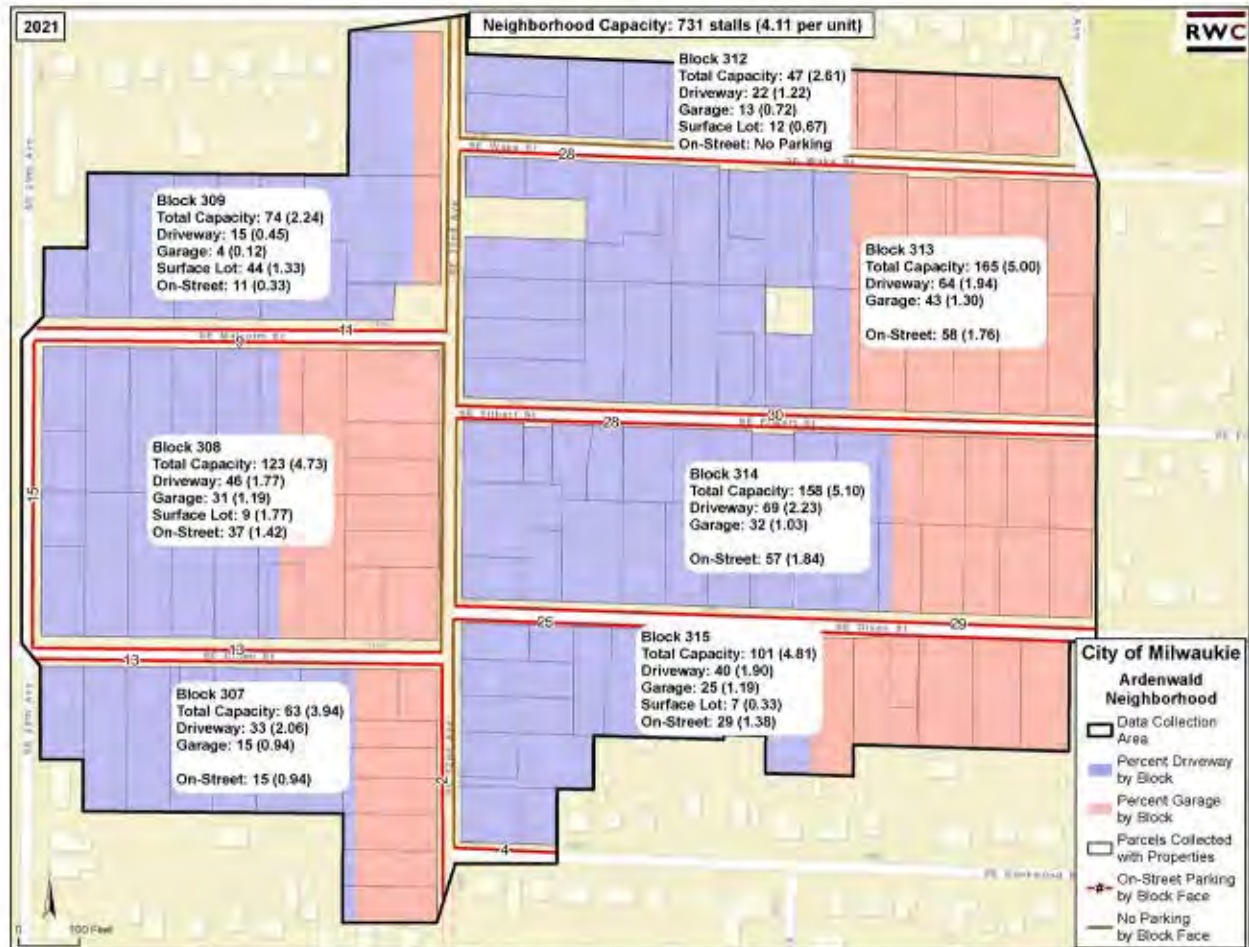
As a ratio of parking to units, Block 314 (at 5.10 stalls per unit) is the highest and Block 309 (at 2.24 stalls per unit) is the lowest. All unique factors that comprise the combined numbers (on-street, driveways, garages, and surface lots) are provided within the Figure (next page).

<sup>6</sup> The only on-street stalls assigned for Other Units were the 2 stalls with time limited signage, a 15 minute and a 1 hour stall.

<sup>7</sup> All units, both residential and non-residential, were combined by City block on the map, for the purpose of visual clarity and due to the small number of "Other" use types.



Figure F: Breakout of Parking by Numbered Block





### Field Notes – Observations

Field observation notes compiled during the inventory in this neighborhood are noted below:



- Legal on-street parking was confusing and inconsistently signed in the Ardenwald neighborhood. Photo at left: Residents tend to park on the south side of the street; no parked vehicles were observed on the north side of the street, despite no signage indicating parking on this side is prohibited. Signage was not consistently present. If on-street parking occurred on both sides of the street, emergency vehicle access would be restricted from passing.
- Photo in the middle: Example of what looks like City placed signage (again, not consistent within study area).
- Photo at right: Much of the on-street parking occurred in unimproved on-street parking stalls in front of single-family residential houses. Dirt or gravel was the on-street surface for most of the stalls.
- Driveways often could accommodate at least two vehicles, while many homes also had either a garage or carport for additional off-street parking.
- The unimproved streets did not have sidewalks, forcing pedestrians into the streets leading to safety concerns.



### 1.7 ISLAND STATION NEIGHBORHOOD

#### Study Area

The sample study area for the Island Station neighborhood is illustrated in **Figure G**.

**Figure G: Island Station Neighborhood Study Area Boundary and Parcel**





### Public On-Street Parking

There are 285 on-street parking stalls within the study area<sup>8</sup>. There are no signed time limits on how parking is used in the neighborhood. A user may park in a stall for an unlimited time on a typical day.

Stall Type	Stalls	% Total
<b>On-Street Supply</b>	<b>285</b>	<b>100%</b>
No Limit	285	100%

### Off-Street Parking – Parking located within a Parcel

Like the Ardenwald neighborhood study area, Island Station has several non-residential land uses within the study area. These other land uses are located in the far northeast corner of the study area, adjacent to McLoughlin Blvd. Overall, the study area is predominantly residential, with residential units making up 131 of the 137 units observed. Other uses include an apartment complex (11 units), two retail buildings (4 units), a restaurant, and an event venue.

Overall, there is a combined capacity of 469 parking stalls: 148 in garages, 238 on driveways, and 79 on surface lots. The surface lot breakout includes parking for the apartment complex (18 stalls), the retail units (26 stalls), the restaurant (25 stalls), and the event venue (10 stalls).

Use Type	Parcels	% Total	Units	% Total	Garage Capacity	% Total	Driveway Capacity	% Total	Surface Lot Capacity	% Total
<b>Property Supply</b>	<b>125</b>	<b>100%</b>	<b>137</b>	<b>100%</b>	<b>152</b>	<b>100%</b>	<b>238</b>	<b>100%</b>	<b>79</b>	<b>100%</b>
Single Family Household	120	96.0%	120	87.6%	148	97.4%	238	100%	0	< 1%
Apartment Complex	1	< 1%	11	8.0%	0	< 1%	0	< 1%	18	22.8%
Retail	2	1.6%	4	2.9%	2	1.3%	0	< 1%	26	32.9%
Restaurant	1	< 1%	1	< 1%	2	1.3%	0	< 1%	25	31.6%
Event Venue	1	< 1%	1	< 1%	0	< 1%	0	< 1%	10	12.7%

<sup>8</sup> On the date the field review was completed (January 15, 2021), much of the west side of SE 22<sup>nd</sup> Avenue (one-way southbound with a bike lane on the west side) was under construction. Based on historical images and observed field conditions, there is no on-street parking on most of the west side of SE 22<sup>nd</sup> Avenue. However, the section between SE Bob White Street and SE Wren Street has a wide gravel shoulder on the west side off the edge of the bike lane, and 10 parking spaces were included within the inventory under the assumption that this section will have adequate width for on-street parking without blocking the bike lane after construction is completed.





### Ratio of Usable Parking per Residential Unit – Combined Study Area

The table below separates the total parking supply observed to better evaluate parking related to residential uses as opposed to parking serving the non-residential units in the study area.

The 131 residential units within the study area are adjacent to a combined parking supply of 689 stalls. As a combined supply, the ratio of usable parking to residential units is 5.26 parking stalls per unit, which includes both on- and off-street parking. Excluding the shared on-street supply, the average parcel has 3.08 parking stalls per residential unit (1.82 stalls on driveways, 1.13 stalls in garages, and 0.14 stalls on surface lots).

All parking for non-residential (Other) units in the study zone is off-street for a combined supply of 65 stalls, 4 in garages and 61 in surface lot parking. The ratio of usable parking to non-residential units is 10.83 parking stalls per "Other" unit.

	All Stalls	On-Street	Driveway	Garage	Surface Lot
<b>Parking Stalls</b>	754	285	238	152	79
<b>Residential Uses: 131 Units</b>					
<b>Parking Stalls</b>	689	285	238	148	18
<b>Parking Stalls/Unit</b>	5.26	2.18	1.82	1.13	0.14
	Stalls provided on-site:		<b>404</b>		
	On-site stalls per unit:		<b>3.08</b>		
<b>Other Land Uses: 6 Units</b>					
<b>Parking Stalls</b>	65	0	0	4	61
<b>Parking Stalls/Unit</b>	10.83	0.00 <sup>9</sup>	0.00 <sup>10</sup>	0.67	10.17
	Stalls provided on-site:		<b>38</b>		
	On-site stalls per unit:		<b>10.83</b>		

<sup>9</sup> There were no signed time limited stalls on-street.

<sup>10</sup> All parking associated with Other Units were either in a garage (no usable driveway capacity) or on surface lots.

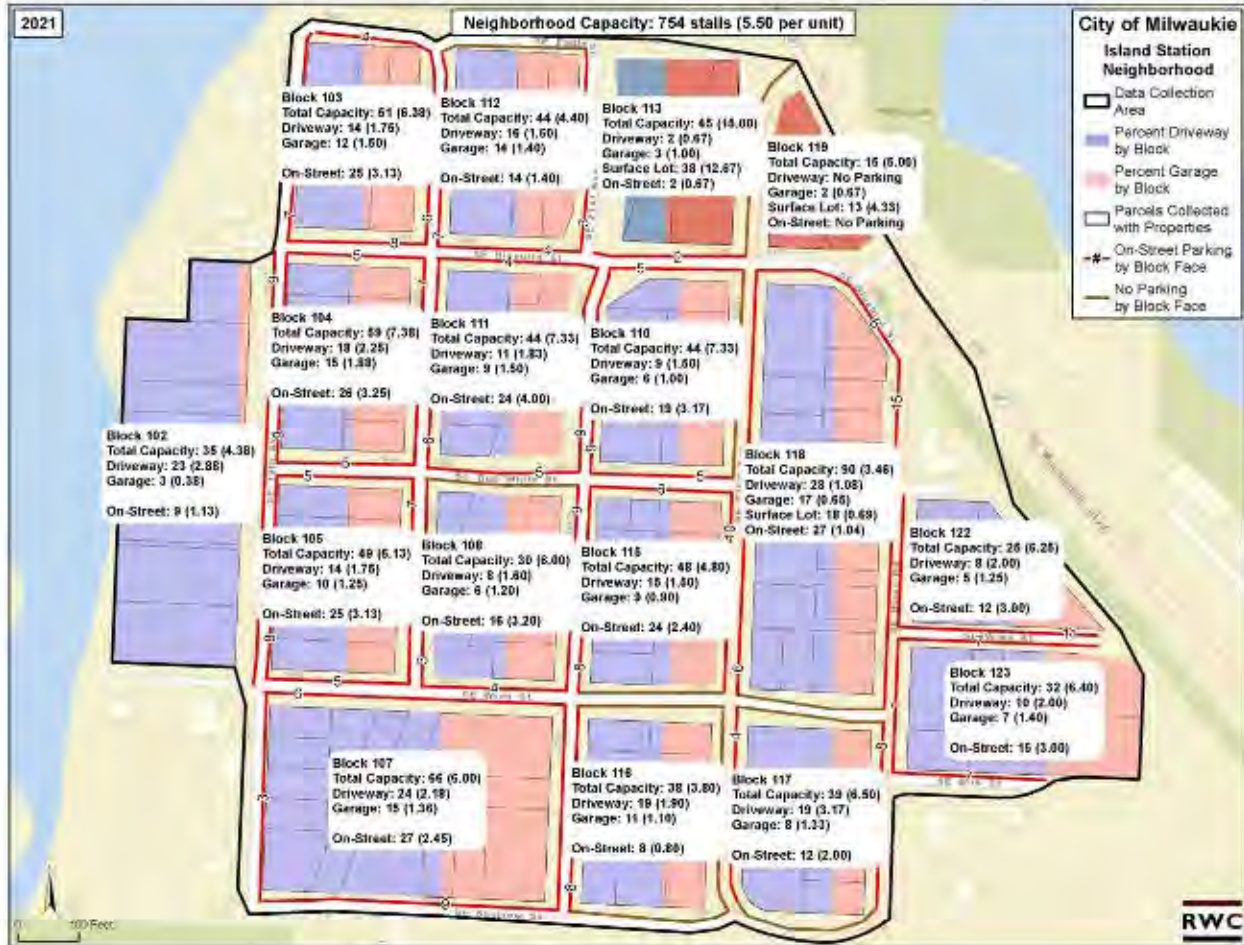


**Parking by Block**

**Figure H** provides a breakout of the number of parking stalls in place on each city block and the ratio of parking per typical unit on that specific city block.<sup>11</sup> For example, the city block with the highest combined number of parking stalls in Block 118 with 90 stalls. The block with the lowest combined number of stalls is Block 122 with 25 stalls, as this block has limited street frontage.

As a ratio of parking to units, Block 104 (at 7.38 stalls per unit) is the highest and Block 116 (at 3.80 stalls per unit) is the lowest. All unique factors that comprise the combined numbers (on-street, driveways, garages, and surface lots) are provided within the Figure.

**Figure H: Breakout of Parking by Numbered Block**



<sup>11</sup> All units, both residential and non-residential, were combined by City block on the map, for the purpose of visual clarity and due to the small number of "Other" use types.



### Field Notes - Observations

Field observation notes compiled during the inventory in this neighborhood are noted below:



- Most on-street parking within the study area requires residents to park at least partially on gravel, mud, or grass (top left).
- With very little parking signage, many residents may view the on-street parking adjacent to their homes as their personal parking (rather than shared parking). One resident was in the process of laying gravel adjacent to the road, which they considered their parking stall. Some residents have put up signage to indicate private parking, or, in some cases, put obstructions up to prevent parking by the public (top right).
- Most driveways were paved and any additional gravel sections of the yard that were observed were therefore not added to the inventory. However, in some cases, the only driveway present was gravel, and in these limited cases, the gravel driveway capacity was included within the inventory (bottom left).
- SE River Road is one-way northbound with a bike lane on the east side. While there is generally no on-street parking on the east side of SE River Road within the study area, a total of two on-street parking spaces on the east side of River Road are included in the inventory as there is adequate space to park in the shoulder area without blocking the bike lane in two small areas.
- The west side of SE 22<sup>nd</sup> Avenue was under construction at the time the field review was completed. SE 22<sup>nd</sup> Avenue is one-way southbound with a bike lane on the west side. Based on discussions with city construction staff, 10 on-street parking spaces on the west side of SE 22<sup>nd</sup> Avenue (between SE Bob White St and SE Wren St) were included within the inventory under the assumption that this section will have adequate width for on-street parking without blocking the bike lane after construction is completed.



## 1.8 SUMMARY

Averaged over all four study areas, the combined **residential parking supply**, including both on- and off-street parking, was found to be **5.15 parking stalls per residential unit**. On-street parking contributes 2.09 parking stalls per unit, and off-street parking (including driveways, garages, and surface lots) contribute the remaining 3.06 parking stalls per unit.

Each neighborhood has unique characteristics, but on-street parking makes up **at least 30% of the total residential parking supply** in each (ranging from 30% to 48% of the observed supply). The majority of the parking supply is contained within private off-street parking in all four neighborhoods.

	Lake Road	Lewelling	Ardenwald	Island Station	Total
<b>Total Parking Stalls<sup>12</sup></b>	943	1,001	691	689	<b>3,324</b>
<b>On-Street Stalls</b>	451	406	205	285	<b>1,347</b>
<b>Driveway Stalls</b>	332	353	287	238	<b>1,210</b>
<b>Garage Stalls</b>	160	242	156	148	<b>706</b>
<b>Surface Lot Stalls</b>	0	0	43	18	<b>61</b>
<b>Residential Units</b>	190	154	171	131	<b>646</b>
<b>Total Stalls/Unit</b>	4.96	6.50	4.04	5.26	<b>5.15</b>
<b>On-Street Stalls/Unit</b>	2.37	2.64	1.20	2.18	<b>2.09</b>
<b>Driveway Stalls/Unit</b>	1.75	2.29	1.68	1.82	<b>1.87</b>
<b>Garage Stalls/Unit</b>	0.84	1.57	0.91	1.13	<b>1.09</b>
<b>Surface Lot Stalls/Unit</b>	0.00	0.00	0.25	0.14	<b>0.09</b>
				Stalls provided on-site:	<b>1,977</b>
				On-site stalls per unit:	<b>3.06</b>

## 1.9 NEXT STEPS

This memo focuses exclusively on the land use characteristics and parking supply observed within each neighborhood. This data will serve as the foundation for an **occupancy study** that will document observed parking demand (over two time periods) by each parking stall type. The occupancy study will provide additional detail regarding actual usage of the system, both in terms of overall parking demand as well as how residents are using each portion of the available parking supply (e.g., the on-street system and their private off-street parking supply).

<sup>12</sup> Residential parking stalls only. "Other" uses excluded from this summary.



## Appendix A - Example Inventory Field Template

Neighborhood: Lewelling					Block Number: 202			
On-Street Parking								
Block ID	Stall Count/Type							Notes
202A	2 NL, 1 NL, 2 NL, 4 NL, 1 NL, 2 NL, 4 NL, 2 NL, 3 NL, 1 NL, MB - 2 NL, 6 NL.							
202B	3 NL, 2 NL, 4 NL							
202C	2 NP - 1 NL, 3 NL, 2 NL, 1 NL, 3 NL, 2 NL, 3 NL, 1 NL, 2 NL, 4 NL, 3 NL, 1 NL, 2 NL							NP sign at beginning of block
202D	9 NL							
On-Site Parking by Parcel								
Parcel ID	Entry Side	Number of Properties	Number of Units	Garage Capacity	Driveway Capacity	Surface Lot Capacity	Use Type	Notes
202_1	A	1	1	2	2	0	F	
202_2	A	1	1	2	2	0	F	
202_3	A	1	1	2	2	0	F	
202_4	A	1	1	2	4	0	F	
202_5	A	1	1	2	3	0	F	
202_6	A	1	1	2	2	0	F	
202_7	A	1	1	2	2	0	F	
202_8	A	1	1	2	3	0	F	
202_9	A	1	1	1	2	0	F	
202_10	A	1	1	2	2	0	F	
202_11	A	1	1	1	3	0	F	
202_12	AB	1	1	1	5	0	F	Driveway on A and B side
202_13	B	1	1	2	2	0	F	
202_14	C	1	1	2	3	0	F	
202_15	C	1	1	2	2	0	F	
202_16	C	1	1	2	2	0	F	
202_17	C	1	1	1	3	0	F	
202_18								
202_19								
202_20								
202_21								
202_22								



## City of Milwaukie: Residential Parking Occupancies Summary of Findings

*February 2021 (v1)*

### 1.1 INTRODUCTION

In 2017, the City of Milwaukie adopted a 20-year vision effort, and in 2018, the City began a two-year process to update the Comprehensive Plan. The adoption of the Comprehensive Plan establishes a mandate for Milwaukie to update any lagging land use policies and practices that may be holding the City back from realizing its vision. One significant area where current policies and practices need to be updated is the zoning code. The City made it an early priority to update the zoning code in single dwelling residential areas. These areas of the zoning code will need to be amended to achieve several Comprehensive Plan goals related to increasing community diversity, preparing for population growth, protecting natural resources, and improving climate resiliency.

In support of these efforts the City of Milwaukie is interested in how parking typically functions in residential neighborhoods. A better understanding of this dynamic will help facilitate decision making regarding parking in the context of the Comprehensive Plan, the zoning code, and state level requirements.

In January 2021, a complete inventory of parking supply was compiled in four Milwaukie neighborhoods. In February, actual vehicle counts (occupancy counts) were conducted within these same neighborhoods. The purpose of this report is to summarize the findings of the occupancy study. Key findings summarize occupancies within the public right-of-way and on-site within parcels (by unit). Calculations of parking demand by unit are also provided.

The sample study zones are within the following neighborhoods, selected in consultation with the City of Milwaukie and Urbsworks (the prime consultant for the larger Comprehensive Plan Implementation Project):

- Lake Road
- Lewelling
- Ardenwald
- Island Station

### 1.2 GLOSSARY OF TERMS

- Building:** Any built structure within a parcel intended for residential use (e.g., single family households, duplexes, and apartments) or, in some cases, non-residential use (e.g., retail, restaurant, etc.). Garages are excluded from this definition.
- Capacity:** The estimated number of physical parking stalls associated with a parcel or fully inventoried supply.
- Carpport:** A roofed structure within a parcel intended for the parking of vehicles; unlike a garage, a carport does not contain walls or doors.
- Driveway:** Any area within a parcel that is legally intended for the parking of vehicles. Driveways are identified as having an associated curb cut from a street into a parcel. A driveway will have a clearly visible apron of pavement or gravel (usually in front of a garage). A driveway must be large enough in size to accommodate a vehicle without infringing on a sidewalk or street.
- Garage:** Any built structure within a parcel intended for the parking of vehicles. In the context of this study, garage capacity was estimated based on the width of the garage door (or number of doors, if multiple doors were observed).



<b>"Illegal" Parking:</b>	During the <i>inventory</i> study, numerous vehicles were parked in areas deemed unsafe or illegal. Examples were vehicles parked in front yards (not on driveways), vehicles parked in no parking areas in ways that impeded traffic flow, or across driveways. As these vehicles were not in a clear parking stall, these parking areas were not recorded as part of the legal "parking supply." However, during the <i>occupancy</i> study, these vehicles do contribute to "parking demand". As such, they were quantified and added to the demand within the inventoried supply. Thus, if 2 vehicles were parked in a front yard, 2 vehicles of demand were added to <i>driveway</i> parking demand. If 3 vehicles were parked unsafely on-street, their demand was added to the functional <i>on-street</i> parking demand total. In short, if vehicles were parked, they were accounted for as parking demand.
<b>Inventory:</b>	<p><b>Land Use</b> - A land use inventory is a catalogue of all residential dwelling units and non-residential units (e.g., retail, restaurant, industrial) in a designated study area.</p> <p><b>Parking</b> - A parking inventory is a catalogue of spaces that can be legally and safely used for parking. The catalogue of parking is separated by type of parking identified (i.e., on-street, in driveways, and garages).</p>
<b>Occupancy:</b>	The number of vehicles parked within a supply, expressed as a percentage of occupied parking supply. For instance, if 50 cars are parked within an inventoried supply, then the occupancy at the time of that count would be 50%.
<b>Parcel:</b>	A piece of real property as identified by the county assessor's parcel number (APN) that is one contiguous parcel of real property. Individual parcels are demarcated on study area maps developed for each study area. All land uses and parking within parcels are associated with that specific parcel. See <b>Figure A</b> as an example.
<b>Parcel Block:</b>	Parcel blocks are designated on data maps by number. Such blocks are generally defined as an area bounded by streets and containing unique parcels within such a block. See <b>Figure C</b> as an example.
<b>Parking stall:</b>	An area located on-street, in driveways and carports, in surface lots, or in garages that is available to park vehicles by authorized users (hourly, daily, and/or overnight). Parking stalls need to be reasonably sized to ensure appropriate access and maneuverability.
<b>Peak Occupancy:</b>	Within the parking industry, peak occupancy for residential uses is assumed to occur at midnight or later (e.g., 2:00 AM). In a residential neighborhood, this period of occupancy best captures uses only related to residential parking demand, unassociated with other non-residential demand generators (e.g., commercial visitors, employee demand/overspill, etc.). At this hour, vehicles parked can be directly correlated to residential demand, whether a vehicle is parked on-street or on-site.
<b>Ratio of stalls to units:</b>	Calculations of the relationship of the number of parking stalls to residential units are made at different levels, including in aggregate or by type of supply (e.g., on-street, in driveways, and/or garages). This ratio is useful in examining physical parking built within a supply and what a code might require.
<b>Ratio of demand to units:</b>	Calculations of the relationship of the demand for parking to residential units. For this study, calculations were made for demand per unit that aggregated on-street and on-site occupancies to establish a combined ratio of demand for each neighborhood. The combined demand per unit is also broken out to show demand generated from on-street vehicle demand and as demand generated by vehicles parked on-site. Vehicle occupancies (demand) in garages was not quantified as the overwhelming majority of observed garages had doors closed. As such, the ratios of demand to units provides <i>an estimate of the</i>



*minimum demand generated per unit*, assuming some increment above this minimum would be associated with vehicles parked in garages.

**Unit:** **Residential** - A residential unit is identified as a unique address within a parcel. This could be a single-family dwelling, or multiple units within multifamily dwellings (e.g., duplex, apartment).

**Non-residential** - A non-residential unit is identified as real property within a parcel that provides services or business within a study area. This could be individual free-standing businesses or services or multiple activity spaces within a shared building. Examples include workspaces, restaurants, retail spaces and event venues (if housed in a building).

### 1.3 METHODOLOGY

#### Study Zone Boundaries

Study area boundaries in the four neighborhoods were developed in coordination with the City of Milwaukie and the Comprehensive Plan Implementation team. The intent for establishing study zones was to develop sample areas to collect usage data from selected neighborhoods. Outputs from collected data can serve as "typical" representations of how parking is currently provided (supply)<sup>1</sup> and used (demand) in these neighborhoods.

#### Vehicle Occupancy Counts

Occupancy counts were conducted at 2:00 AM and 10:00 AM on February 3 and 4, 2021 to capture overall parking demand. Most parking in each neighborhood was associated with residential parking demand. Parking (on or off-street) associated with non-residential uses (e.g., retail, commercial) was not included in counts for residential demand and was instead tracked separately.

Within the parking industry, the 2:00 AM count in residential areas is best representative of a residential "peak hour." At this hour, it is likely that most, if not all, vehicles parked in a supply are directly associated with residential uses; assuming that non-residents (retail, employment, event, etc.) would not be in the area at this hour. Also, residents themselves, to a high degree, would be home from work and not out on trips or errands.

The 10:00 AM count was conducted to document mid-morning demand associated with residential and non-residential parking demand. The 10:00 AM count serves as a snapshot to show how each neighborhood transitions from the traditional residential peak hour (2:00 AM) to a daytime period that may include some non-residential users. For instance, if occupancies at 10:00 AM decrease compared to the 2:00 AM peak period, this is usually a reflection of residents leaving the area for work, shopping, or other daytime trips. However, if parking demand increases during the day above the 2:00 AM peak, that is a sign that non-residential users parking in the area outnumber the number of residents leaving during the day.

Vehicle counts were taken in separate supply categories, cataloguing vehicles parked in the on-street supply and on-site (within a parcel). Surveyors also made note of and accounted for vehicles parked illegally or unsafely in the different supply types. These vehicles *are included* in the overall parking demand numbers.

<sup>1</sup> A detailed summary of the entire parking inventory (supply) in each neighborhood is contained in Rick Williams Consulting; *City of Milwaukie; Residential Parking Inventory Summary of Findings - February 2021 (v3)*





## 1.4 Lake Road Neighborhood

### Inventory Overview

The sample study area for the Lake Road neighborhood is illustrated in **Figure A**. The survey area for the Lake Road neighborhood is comprised of 190 residential units, served by 783 visible parking stalls (451 on-street stalls and 332 driveway/carport stalls).<sup>2</sup> There were no surface lot stalls in this neighborhood. This is summarized in **Table 1**.

**Table 1: Lake Road Neighborhood – Breakout of observed stalls and residential units**

	Lake Road
<b>Total Parking Stalls Studied<sup>3</sup></b>	783
<b>On-Street Stalls</b>	451
<b>Driveway Stalls</b>	332
<b>Surface Lot Stalls</b>	-
<b>Residential Units</b>	190

### Summary of Parking Occupancies

#### On-Street Parking Demand

There are 451 on-street parking stalls within the Lake Road neighborhood study area. At the 2:00 AM data collection hour, 169 vehicles were observed parked in the on-street supply. This represents an occupancy of 37.5%, leaving 283 empty stalls in the usable on-street inventory.

At 10:00 AM, 142 vehicles were observed parking in the on-street supply. This represents an occupancy of 31.5%, with 309 empty stalls available within the useable on-street inventory.

**Table 2** summarizes occupancy counts associated with the on-street supply.

**Table 2: Observed Occupancies – On-street Supply**

Performance Measure	Parking Demand Observations	
	On-Street Parking Supply: 451 stalls	
Collection Hour	2:00 AM	10:00 AM
Occupancy	37.5%	31.5%
Parked Vehicles	168 <sup>4</sup>	141 <sup>5</sup>
RV/ Trailers	1	1
Construction/ Obstruction	-	-
<b>Empty stalls (unused supply)</b>	<b>283</b>	<b>309</b>

<sup>2</sup> An additional 160 stalls of "capacity" were estimated during the inventory in doored garages.

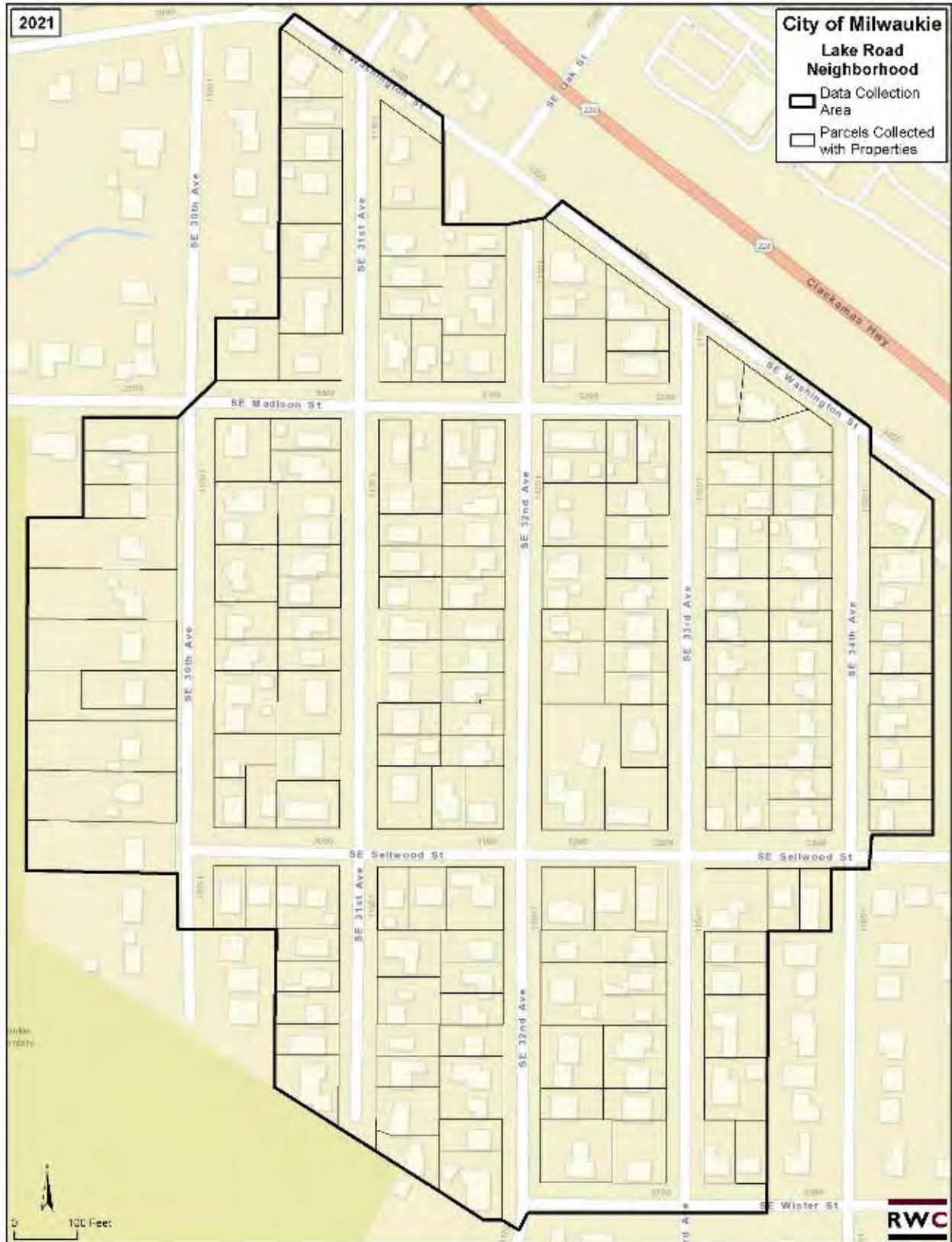
<sup>3</sup> Residential parking stalls only. "Other" and Garage uses excluded from this summary.

<sup>4</sup> Of the total vehicles parked at 2:00 AM, nine (9) were parked illegally (including the one RV/Trailer).

<sup>5</sup> Of the total vehicles parked at 10:00 AM, three (3) were parked illegally (including the one RV/Trailer).



Figure A: Lake Road Neighborhood Study Area Boundary and Parcel Map





### On-Site Parking Demand (within parcels)

Use of on-site parking in the neighborhood is summarized in **Table 3**. In the Lake Road neighborhood, there are 332 on-site parking stalls. This is all driveway capacity as there are no surface lots serving residential uses in this neighborhood.

At the 2:00 AM hour, 219 vehicles were observed parked within residential parcels, an occupancy of 66.3%. At 2:00 AM, there were 113 empty parking stalls within the on-site supply. At 10:00 AM, occupancies dropped to 52.1% with 173 vehicles parked and 159 empty stalls.

**Table 3: Observed Occupancies – On-site supply**

Performance Measure	Parking Demand Observations	
	On-Site Parking Supply: 332 stalls	
	2:00 AM	10:00 AM
Occupancy	66.3% <sup>6</sup>	52.1% <sup>7</sup>
Parked Vehicles	219	173
Empty stalls (unused supply)	113	159

### Residential Parking Demand per Unit

**Table 4** summarizes observed occupancy data per unit for the entire 783 stall supply using observed vehicle occupancy numbers provided in **Tables 2** and **3** above. The table also allocates the demand for each unit between on-street and on-site occupancies to illustrate demand by stall type.

**Table 4: Residential Parking Demand per Unit**

Performance Measure	Parking Demand per Unit	
	Residential Units: 190 Units	
	2:00 AM	10:00 AM
On-Street Vehicles/Unit (Supply: 2.37 stalls/unit)	0.89	0.75
Driveway Vehicles/Unit (Supply: 1.75 stalls/unit)	1.16	0.92
Surface Lot Vehicles/Unit (Supply: N/A)	N/A	N/A
Total Vehicles/Unit (Supply: 4.12 stalls/unit <sup>8</sup> )	2.05	1.67

As the table indicates, peak hour (2:00 AM) residential demand is 2.05 vehicles per unit. Of that total, 0.89 per unit is generated from vehicles parking on-street. Observed on-site demand is 1.16 vehicles per unit. At 10:00 AM, combined demand for parking is 1.67 vehicles per unit; with 0.75 and 0.92 of demand derived on-street and on-site, respectively. These demand ratios can be contrasted to the built supply of parking (excluding garage capacity), which combined, totals 4.12 stalls of capacity serving a demand of 2.05 and 1.67 vehicles/unit, for the 2:00 AM and 10:00 AM occupancy periods. This is illustrated in **Figure B**.

<sup>6</sup> Of the vehicles parked at 2:00 AM, seven (7) are parked somewhere on-site other than the driveway.

<sup>7</sup> Of the vehicles parked at 10:00 AM, six (6) are parked somewhere on-site other than the driveway.

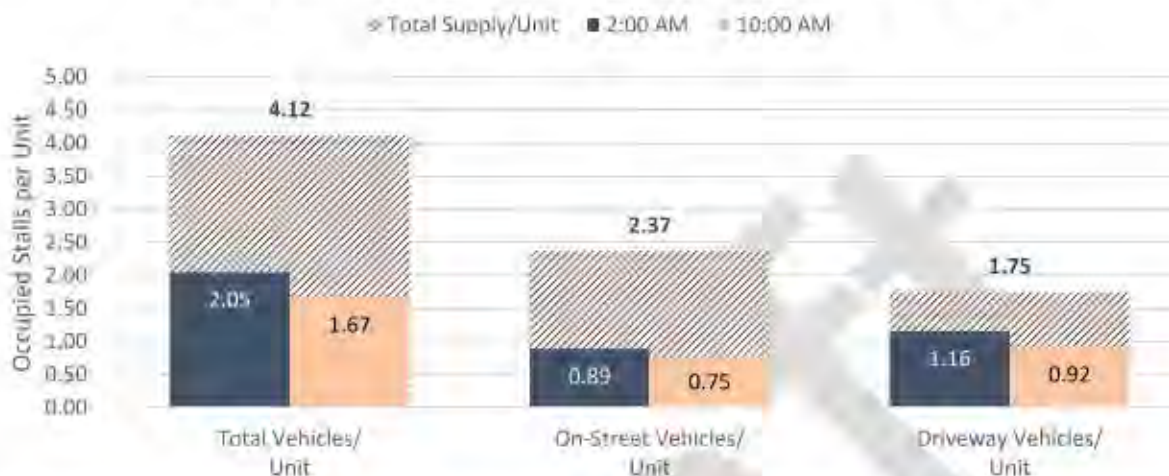
<sup>8</sup> This does not include potential garage capacity, which totaled 160 stalls, which would raise the built ratio to 4.96.



**Figure B: Summary of Parking Demand and Built Supply**

### 2021 Milwaukie Parking Demand Ratios - Lake Road Neighborhood

2:00 AM vs. 10:00 AM: Weekday parking demand per unit (783 stalls/ 190 units)



### Heat Map Summary

Figures C and D provide a graphic illustration of occupancies at 2:00 AM and 10:00 AM, respectively. Data is provided for both the on-street system and the on-site systems. Map colors define occupancy in five color bands, ranging from purple (indicating greater than 100% occupancy<sup>9</sup>), red (100% - 85%), orange (84% - 70%), yellow (69% - 55%), and green (less than 55%).

#### On-street

At the 2:00 AM hour, 34 of 36 on-street block faces fall within the yellow and green color bands. This demand range is consistent across the study area. That said, one block face on the east side of 34<sup>th</sup> Avenue paralleling the parcels on block 412 has occupancies more than 85%, though the block face on the west of the same street is green (less than 55%). One block face, the west side of SE 32<sup>nd</sup> Avenue, paralleling the parcels on block 404 is orange (85% - 70%). At this hour, the heat maps would indicate there is an abundance of on-street parking available, and access to it is convenient.

At the 10:00 AM hour, 34 of 36 on-street block faces fall within the yellow and green color bands. This demand range is consistent across the study area. There are two block faces that fall within the orange color band: the east side of 34<sup>th</sup> Avenue paralleling the parcels on block 412 and the north side of SE Sellwood Street paralleling the parcels on block 409. At this hour, the heat maps would indicate there is an abundance of on-street parking available and convenient access to it.

#### On-site

The Lake Road study area totals 13 parcel blocks serving 190 unique residential units. For purposes of this discussion, occupancy data is aggregated to the *parcel block* level. Use at the *individual parcel level* is not displayed to ensure that individual residential sites remain anonymous.

At the 2:00 AM hour, 2 of 13 parcel blocks have occupancies greater than 85%. Parking occupancy in the parcels in block 407 exceed the functional supply (greater than 100%). Also, the parcels in block 412 fall within the red band. Four parcel blocks (402, 403, 404, and 411) have occupancies between 84% and 70%

<sup>9</sup> An occupancy of greater than 100% would indicate that when illegally parked vehicles are added to a supply total (on-street or within a parcel), the demand (parked vehicles) exceeds the functional supply (safe stalls).



(orange), with the remaining seven blocks in the yellow and green bands. At this hour, the heat maps would indicate that parcels within blocks can meet their parking demand on-site. Two parcel blocks have demand that approaches or exceeds observed supply, but adequate parking is adjacent to them on-street.

At the 10:00 AM hour, one parcel block (407), falls within the red band (100% - 85%). Two parcel blocks (403 and 412) have occupancies in the orange range. The remaining ten parcel blocks are within the yellow and green bands. At this hour, the heat maps would indicate that parcels within blocks can meet their parking demand on-site. One parcel block has demand greater than 85%, but adequate parking on-street.



Figure C: Parking Occupancy Heat Map - 2:00 AM

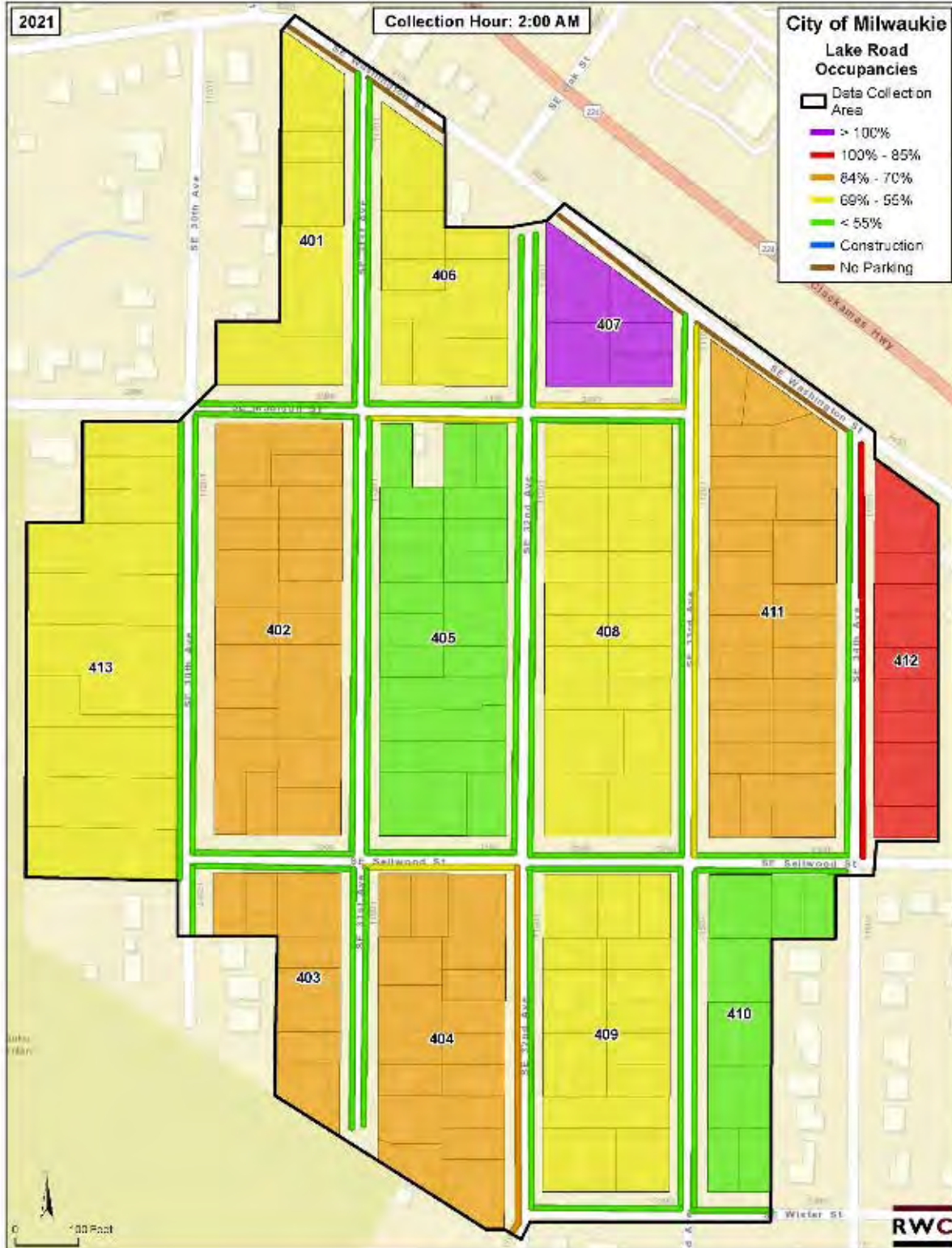
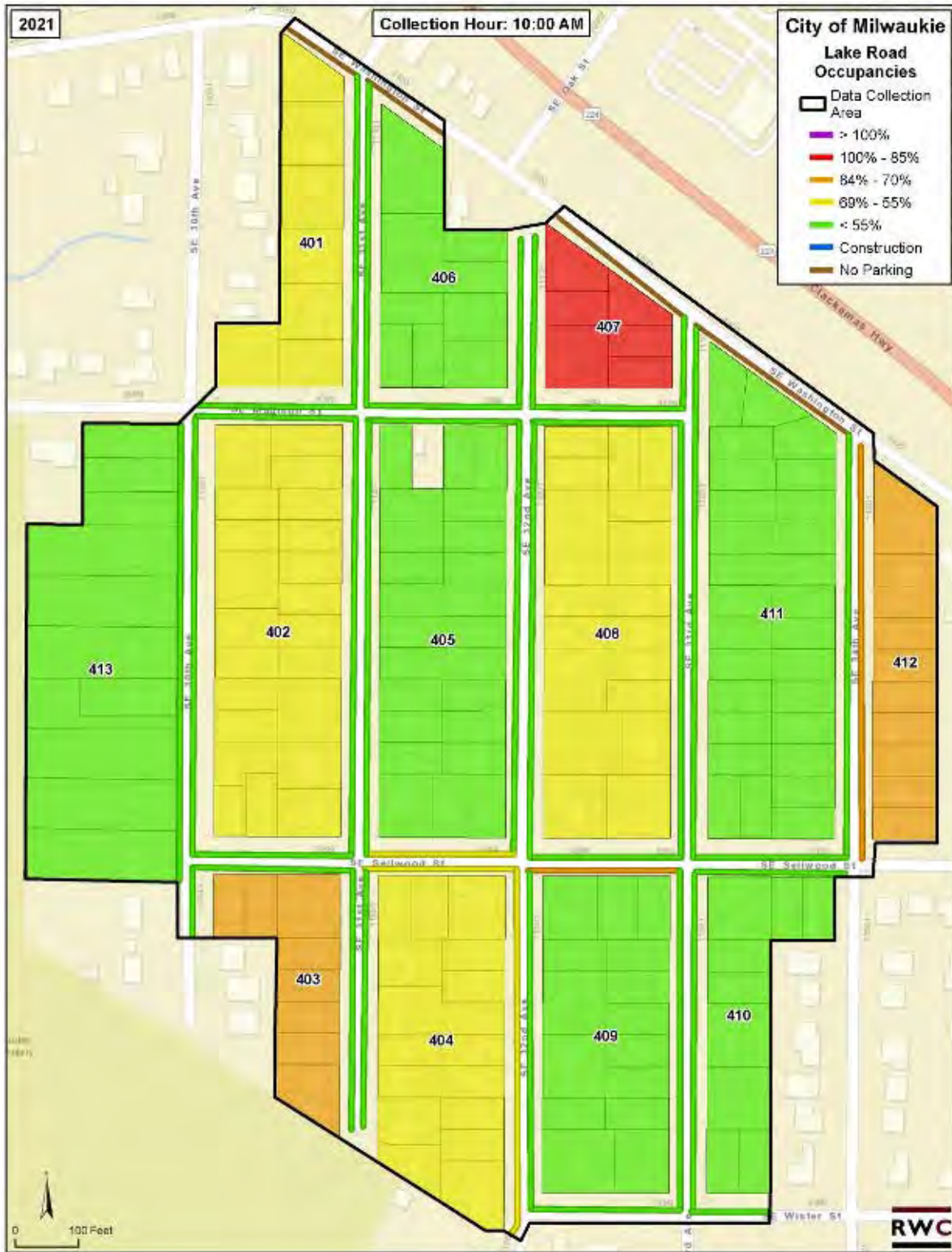




Figure D: Parking Occupancy Heat Map - 10:00 AM

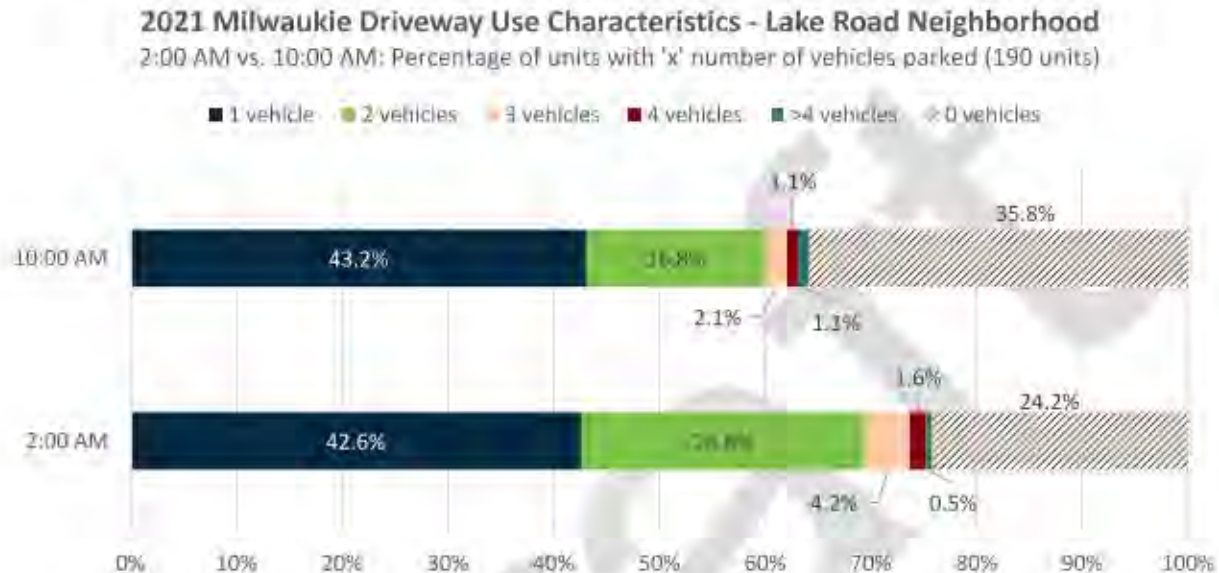




### Number of Vehicles Parked On-Site - By Individual Parcels

Use of observed on-site capacity on individual parcels within a parcel block can influence the color band for use at an aggregated parcel block. Given this, **Figure E** provides a summary of the percentage of vehicles parked on-site at unique residential parcels within the Lake Road study area.

**Figure E: Summary of Use of Observed On-site Supply**



As the figure indicates, the majority of vehicles parked at individual residential units ranges from zero (35.8%) to one (43.2%) at 10:00 AM. Units with 2 observed vehicles represented 16.8% of vehicles parked. Only 4.3% of units were observed to park 3 or more vehicles on-site during this data collection hour.

At 2:00 AM, the majority of vehicles parked at individual residential units ranges from zero (24.2%) to one (42.6%). Units with 2 observed vehicles represented 16.8% of vehicles parked. The drop from zero at this hour as compared to 10:00 AM likely reflects vehicles returning from daytime trips (e.g., work, shopping, etc.). This is also reflected in the increase in 2 observed vehicles (26.8%) and units with 3 or more observed vehicles (raising to 6.3%).

### Summary - Lake Road

Data collected indicates that occupancies within the study zone are higher at the 2:00 AM hour, reflecting the minimum true demand for parking per residential unit: 2.05 vehicles/unit. There is higher overnight use of the on-site supply: 1.16/unit at 2:00 AM versus 0.89/unit at 10:00 AM. In both the on-street and on-site parking supplies there is a sizable supply of empty and available capacity, both overnight and during the day.

While there are a few specific block faces (on-street) and parcel blocks (on-site) that have occupancies that exceed 85%, the number is very small, and convenient, available parking is usually immediately adjacent to these areas on-street.





### 1.5 LEWELLING NEIGHBORHOOD

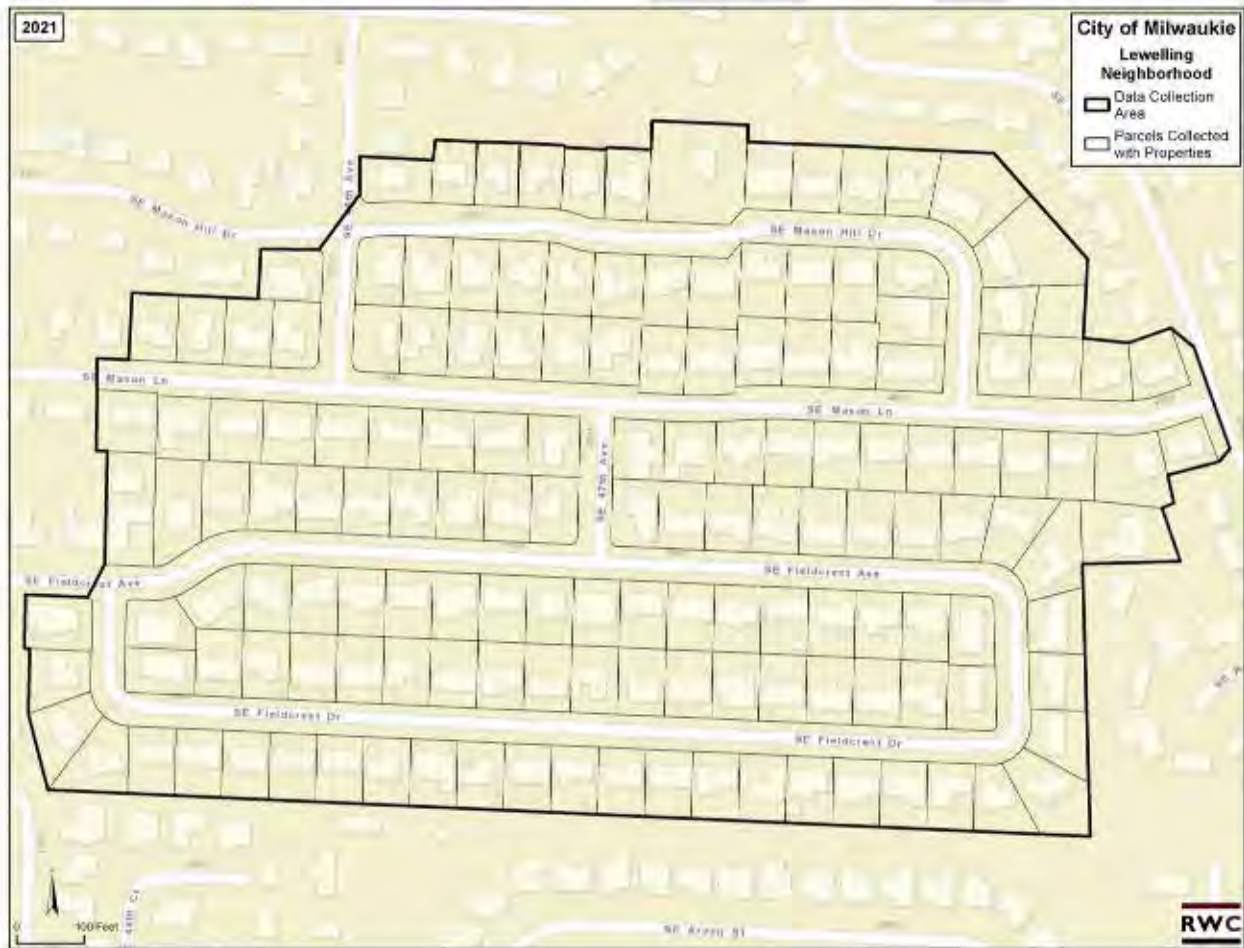
#### Study Area and Occupancy Count Inventory

The sample study area for the Lewelling neighborhood is illustrated in **Figure F**. The survey area for this neighborhood is comprised of 154 residential units, served by 759 parking stalls. Of the total stalls observed during data collection, 406 were on-street and 353 were in driveways/carport stalls.<sup>10</sup> There were no surface lot stalls in this neighborhood. This is summarized in **Table 5**.

**Table 5: Lewelling Neighborhood – Breakout of observed stalls and residential units**

	Lewelling Neighborhood
<b>Total Parking Stalls Studied<sup>11</sup></b>	759
<b>On-Street Stalls</b>	406
<b>Driveway Stalls</b>	353
<b>Surface Lot Stalls</b>	-
<b>Residential Units</b>	154

**Figure F: Lewelling Neighborhood Study Area Boundary and Parcel Map**



<sup>10</sup> An additional 242 stalls of "capacity" were estimated during the inventory in doored garages.

<sup>11</sup> Residential parking stalls only. "Other" and Garage uses excluded from this summary.



## Summary of Parking Occupancies

### On-Street Parking Demand

There are 406 on-street parking stalls within the Lewelling neighborhood study area. At the 2:00 AM data collection hour, 45 vehicles were observed parked in the on-street supply. This represents occupancy of 11.1%, leaving 361 empty stalls in the usable on-street inventory.

At 10:00 AM, 32 vehicles were observed parked in the on-street supply. This represents an occupancy of 8.0%, with 374 empty stalls available within the useable on-street inventory.

**Table 6** summarizes occupancy counts associated with the on-street supply.

**Table 6: Observed Occupancies – On-street Supply**

Performance Measure	Parking Demand Observations	
	On-Street Parking Supply: 406 stalls	
Collection Hour	2:00 AM	10:00 AM
Occupancy	11.1%	8.0%
Parked Vehicles	45 <sup>12</sup>	31 <sup>13</sup>
RV/ Trailers	0	1
Construction/ Obstruction	-	8 <sup>14</sup>
<b>Empty stalls (unused supply)</b>	<b>361</b>	<b>374</b>

### On-Site Parking Demand (within parcels)

Use of on-site parking in the neighborhood is summarized in **Table 7**. In the Lewelling neighborhood, there are 353 on-site parking stalls. This is all driveway/carport capacity as there are no surface lots serving residential uses in this neighborhood.

At the 2:00 AM hour, 247 vehicles were observed parked within residential parcels, an occupancy of 70.0%. At this hour, there were 106 empty parking stalls within the on-site supply. At 10:00 AM, occupancies dropped to 57.2%, with 202 vehicles parked and 151 stalls empty.

**Table 7: Observed Occupancies – On-site supply**

Performance Measure	Parking Demand Observations	
	On-Site Parking Supply: 353 stalls	
Collection Hour	2:00 AM	10:00 AM
Occupancy	70.0% <sup>15</sup>	57.2% <sup>16</sup>
Parked Vehicles	247	202
<b>Empty stalls (unused supply)</b>	<b>106</b>	<b>151</b>

<sup>12</sup> Of the total vehicles parked at 2:00 AM, zero are parked illegally.

<sup>13</sup> Of the total vehicles parked at 10:00 AM, two (2) are parked illegally (includes the one RV/Trailer).

<sup>14</sup> These are what would be useable stalls but have been temporarily removed from the supply since the inventory for construction.

<sup>15</sup> Of the vehicles parked at 2:00 AM, three (3) are parked somewhere on-site other than the driveway.

<sup>16</sup> Of the vehicles parked at 10:00 AM, three (3) are parked somewhere on-site other than the driveway.



**Residential Parking Demand per Unit**

**Table 8** summarizes occupancy data into per unit demand ratios using the entire 759 stall supply using observed vehicle occupancy numbers provided in **Tables 6** and **7** above. The table also allocates the demand for each unit between on-street and on-site occupancies to illustrate demand by stall type.

**Table 8: Residential Parking Demand per Unit**

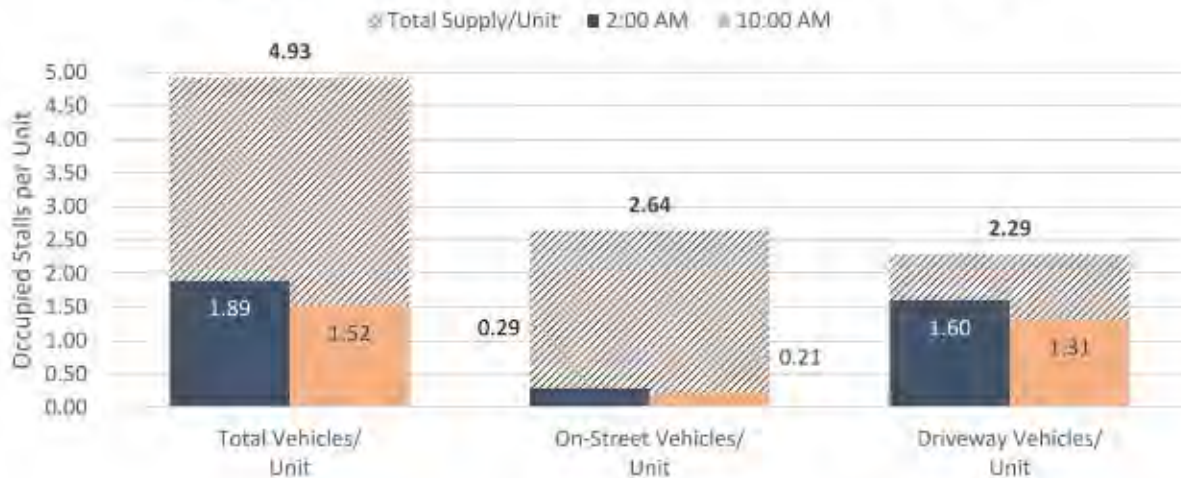
Performance Measure	Parking Demand per Unit	
	Residential Units: 154 Units	
	2:00 AM	10:00 AM
<b>On-Street Vehicles/Unit</b> (Supply: 2.64 stalls/unit)	0.29	0.21
<b>Driveway Vehicles/Unit</b> (Supply: 2.29 stalls/unit)	1.60	1.31
<b>Surface Lot Vehicles/Unit</b> (Supply: N/A)	N/A	N/A
<b>Total Vehicles/Unit</b> (Supply: 4.93 stalls/unit <sup>17</sup> )	<b>1.89</b>	<b>1.52</b>

As the table indicates, peak hour (2:00 AM) residential demand is 1.89 vehicles per unit. Of that total, 0.29 per unit is generated from vehicles parking on-street. Observed on-site demand is 1.60 vehicles per unit. At 10:00 AM, combined demand for parking is 1.52 vehicles per unit; with 0.21 and 1.31 of demand derived on-street and on-site, respectively. These demand ratios can be contrasted to the built supply of parking (excluding garage capacity), which combined, totals 4.93 stalls of capacity serving a demand of 1.89 and 1.52 vehicles/unit, for the 2:00 AM and 10:00 AM occupancy periods. This is illustrated in **Figure G**.

**Figure G: Summary of Parking Demand and Built Supply**

**2021 Milwaukie Parking Demand Ratios - Lewelling Neighborhood**

2:00 AM vs. 10:00 AM: Weekday parking demand per unit (759 stalls/ 154 units)



<sup>17</sup> This does not include potential garage capacity, which totaled 242 stalls, which would raise the built ratio to 6.50.



## Heat Map Summary

**Figures H and I** provide a graphic illustration of occupancies at 2:00 AM and 10:00 AM, respectively. Data is provided for both the on-street system and the on-site systems using the demand color band formula described in the Lake Road summary (**Page 7**).

### On-street

At the 2:00 AM hour, 18 of 20 on-street block faces fall within the green color band (less than 55% occupancy). One block face on the west side of 45<sup>th</sup> Avenue paralleling the parcels on block 201 has occupancies in the orange range (70% - 84%) though the block face on the east side of the same street is green (less than 55%). One block face, the east side of SE Mason Hill Drive Avenue, paralleling the parcels on block 203 is yellow (69% - 55%). At this hour, the heat maps would indicate there is an abundance of on-street parking available and access to it is convenient.

At the 10:00 AM hour, all on-street block faces fall within the green color band (less than 55%). At this hour, the heat maps would indicate there is an abundance of on-street parking available with convenient access.

### On-site

This study area has very large parcel blocks, totaling 10 blocks and 154 unique units. For purposes of this discussion, occupancy data is aggregated to the *parcel block* level. Use at the *individual parcel level* is not displayed to ensure that individual residential sites remain anonymous.

At the 2:00 AM hour, one of the parcel blocks (208) falls within the red band (100% - 85%). Four of 20 parcel blocks fall within the orange band (84% - 70%); this includes parcel blocks 200, 205, 207, and 209. Three parcel blocks (202, 204, and 206) have occupancies between 69% and 55%. The remaining parcel blocks (201 and 203) are green (less than 55%).

At this hour, the heat maps would indicate that parcels within blocks can meet their parking demand on-site. Only one parcel block has demand that approaches observed supply, and as stated above, there is an abundance of empty on-street parking.

At the 10:00 AM hour, one parcel block (208) falls within the red band (100% - 85%). Three parcel blocks (200, 205, and 207) have occupancies in the yellow range. The remaining six parcel blocks are within the green band. At this hour, the heat maps would indicate that parcels within blocks can meet their parking demand on-site. Only one parcel block has demand that approaches observed supply, and, as stated above, there is an abundance of empty on-street parking.



Figure H: Parking Occupancy Heat Map - 2:00 AM





Figure 1: Parking Occupancy Heat Map - 10:00 AM

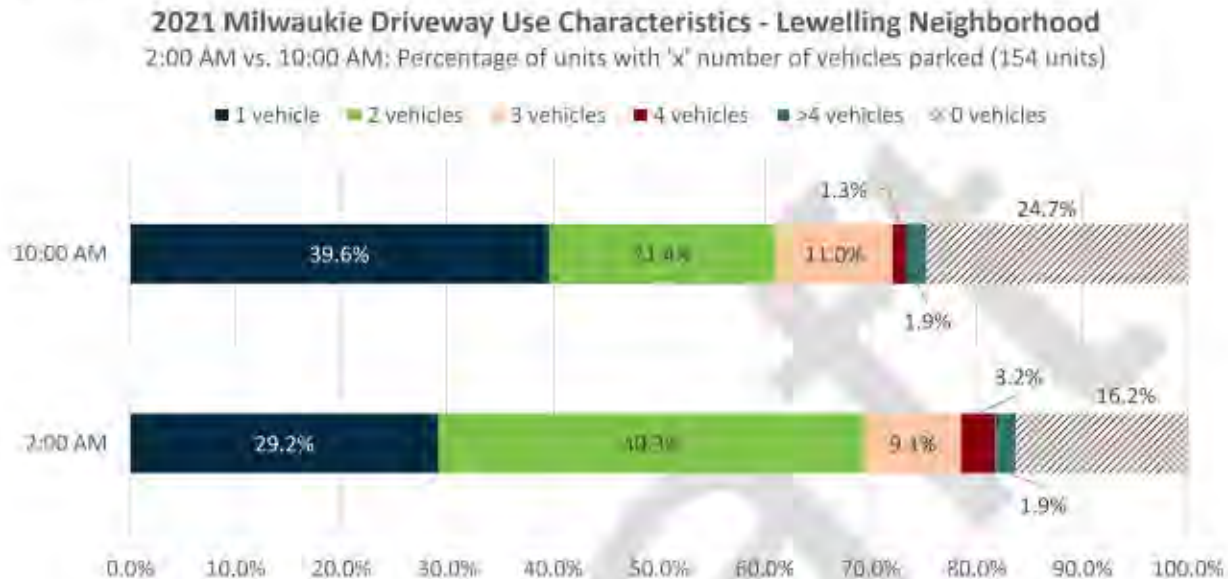




**Number of Vehicles Parked On-site - By Individual Parcels**

**Figure J** provides a summary of the percentage of vehicles parked on-site at unique residential parcels within the Lewelling study area.

**Figure J: Summary of Use of Observed On-site Supply**



As the figure indicates, most vehicles parked at individual residential units ranges from zero (24.7%) to one (39.6%) at 10:00 AM. Units with 2 observed vehicles represented 21.4% of vehicles parked. The percentage of units observed to park 3 or more vehicles on-site during this data collection hour totals 14%, a much higher percentage than the Lake Road study area.

At 2:00 AM, the percentage of vehicles parked between 0 and 1 vehicles was 16.2% and 29.2%, respectively. Units with 2 observed vehicles represented 40.3% of vehicles parked (the largest use category). As with the Lake Road data above, the drop from 0 and 1 at this hour as compared to 10:00 AM likely reflects vehicles returning from daytime trips (e.g., work, shopping, etc.). This is also reflected in the large increase in 2 observed vehicles. Units with 3 or more observed vehicles remained constant at 14.2%

**Summary - Lewelling Neighborhood**

Data collected indicates that occupancies within the study zone are higher at the 2:00 AM hour, reflecting what is likely the minimum true demand for parking per residential unit – 1.89 vehicles/unit – an hour when few (if any) non-residential vehicles are in the neighborhood. Not surprisingly, there is higher use of the on-site supply at the 2:00 AM peak; 1.60/unit versus 1.31/unit (10:00 AM). In both supplies (and at both occupancy hours), the study showed that there is a sizable supply of empty and available capacity. For the Lewelling neighborhood, it also appears that there is very low use of the on-street system to meet parking demand, with only 45 vehicles (11.1%) using the street at the 2:00 AM peak hour.



1.6 ARDENWALD NEIGHBORHOOD

**Study Area**

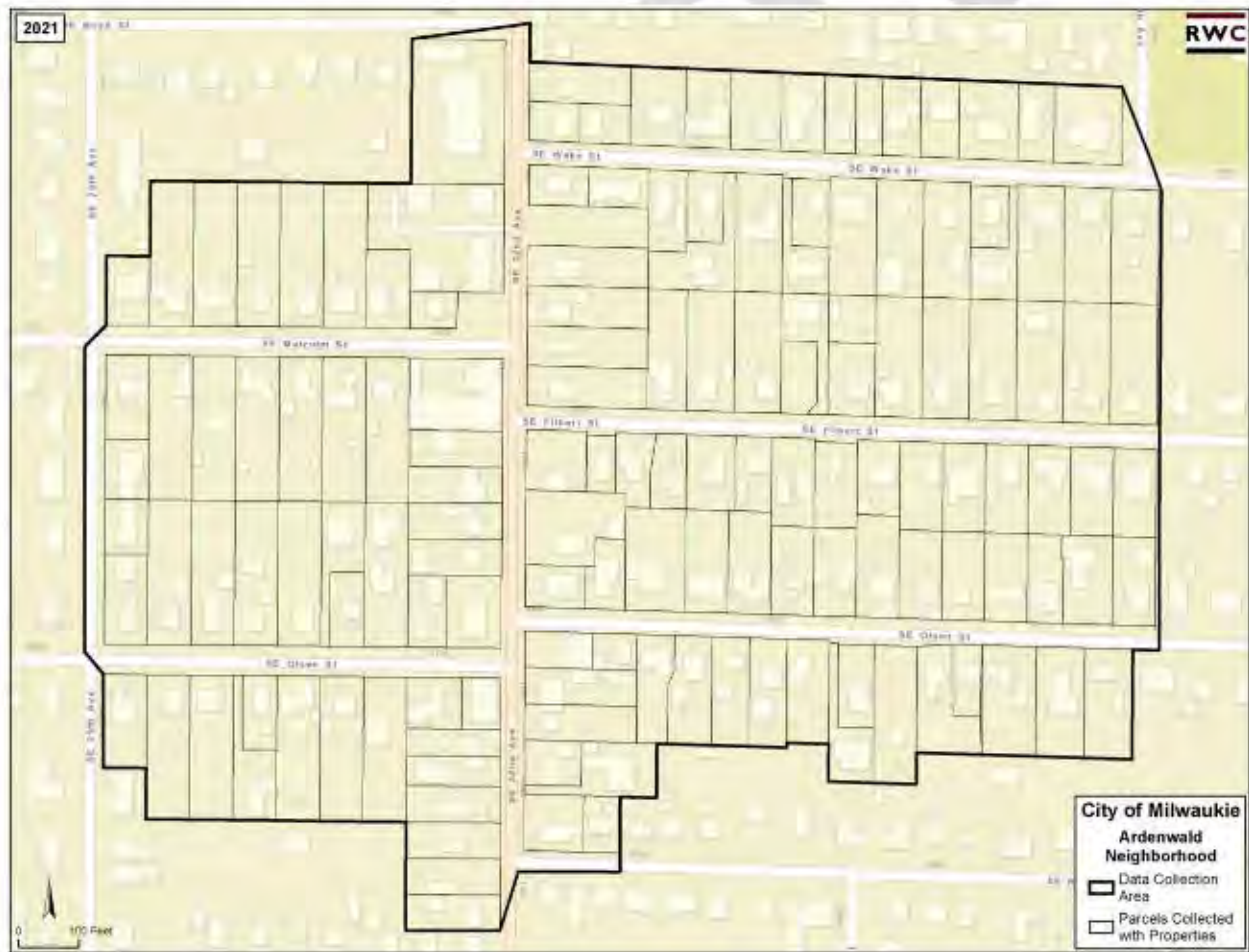
The sample study area for the Ardenwald neighborhood is illustrated in **Figure K**.

The survey area for this neighborhood is comprised of 171 residential units, served by 535 parking stalls. Of the total stalls observed during data collection, 205 were on-street, 287 were in driveways/carport stalls, and 43 were on surface lots.<sup>18</sup> This is summarized in **Table 9**.

**Table 9: Ardenwald Neighborhood - Breakout of observed stalls and residential units**

	Ardenwald Neighborhood
<b>Total Parking Stalls Studied<sup>19</sup></b>	535
<b>On-Street Stalls</b>	205
<b>Driveway Stalls</b>	287
<b>Surface Lot Stalls</b>	43
<b>Residential Units</b>	171

**Figure K: Ardenwald Neighborhood Study Area Boundary and Parcel Map**



<sup>18</sup> An additional 156 stalls of residential "capacity" were estimated during the inventory in doored garages.

<sup>19</sup> Residential parking stalls only. "Other" and Garage uses excluded from this summary.





## Summary of Parking Occupancies

### On-Street Parking Demand

There are 205 on-street parking stalls within the Ardenwald neighborhood study area that serve residential uses. At the 2:00 AM data collection hour, 50 vehicles were observed parked in the on-street supply. This represents occupancy of 24.2%, leaving 157 empty stalls in the usable on-street inventory.

At 10:00 AM, 43 vehicles were observed parking in the on-street supply. This represents an occupancy of 20.8%, with 164 empty stalls available within the useable on-street inventory.

**Table 10** summarizes occupancy counts associated with the on-street supply.

**Table 10: Observed Occupancies – On-street Supply**

Performance Measure	Parking Demand Observations	
	On-Street Parking Supply: 205 stalls	
Collection Hour	2:00 AM	10:00 AM
Occupancy	24.2%	20.8%
Parked Vehicles	49 <sup>20</sup>	43 <sup>21</sup>
RV/ Trailers	1	-
Construction/ Obstruction	-	-
<b>Empty stalls (unused supply)</b>	<b>157</b>	<b>164</b>

### On-Site Parking Demand (within parcels)

Use of on-site parking in the neighborhood is summarized in **Table 11**. In the Ardenwald neighborhood, there are 330 on-site parking stalls, 287 in driveway/carports and 43 stalls on surface lots serving residential uses in this neighborhood.

At the 2:00 AM hour, 299 vehicles were observed parked within residential parcels, an occupancy of 90.6%. At this hour, there were 31 empty parking stalls within the on-site supply. At 10:00 AM, occupancies dropped to 74.5%, with 246 vehicles parked and 84 stalls empty.

**Table 11: Observed Occupancies – On-site supply**

Performance Measure	Parking Demand Observations	
	On-Site Parking Supply: 330 stalls	
Collection Hour	2:00 AM	10:00 AM
On-site Occupancy (combined)	90.6%	74.5%
Parked Vehicles (driveway/carport)	269 <sup>22</sup>	226 <sup>23</sup>
Parked Vehicles (surface lot)	30	20
<b>Empty stalls (unused supply)</b>	<b>31</b>	<b>84</b>

### Residential Parking Demand per Unit

**Table 12** summarizes occupancy data into parking demand per residential unit. Data is based on use within the entire 535 stall supply using observed vehicle occupancy numbers provided in **Tables 10** and **11** above.

<sup>20</sup> Of the total vehicles parked at 2:00 AM, one (1) is parked illegally (includes the RV/Trailer).

<sup>21</sup> Of the total vehicles parked at 10:00 AM, one (1) is parked illegally.

<sup>22</sup> Of the vehicles parked, 24 are parked somewhere on-site other than the driveway.

<sup>23</sup> Of the vehicles parked, ten (10) are parked somewhere on-site other than the driveway.



The table also allocates the demand for each unit between on-street and on-site occupancies to illustrate demand by stall type.

**Table 12: Residential Parking Demand per Unit**

Performance Measure	Parking Demand per Unit	
	Residential Units: 171 Units	
	2:00 AM	10:00 AM
<b>On-Street Vehicles/Unit</b> (Supply: 1.20 stalls/unit)	0.29	0.25
<b>Driveway Vehicles/Unit</b> (Supply: 1.68 stalls/unit)	1.58	1.35
<b>Surface Lot Vehicles/Unit</b> (Supply: 0.25/unit)	0.18	0.12
<b>Total Vehicles/Unit</b> (Supply: 3.13 stalls/unit <sup>24</sup> )	<b>2.05</b>	<b>1.72</b>

As the table indicates, peak hour (2:00 AM) residential demand is 2.05 vehicles per unit. Of that total, 0.29 per unit is generated from vehicles parking on-street. Observed on-site demand is 1.76 vehicles per unit (1.58 in driveway/carports and 0.18 in surface lots). Unlike Lake Road and Lewelling, demand and supply of driveway/carport stalls are very close, particularly at the 2:00 AM hour. This underscores the occupancy numbers in **Table 11**, which show on-site (2:00 AM) occupancies of 90.6%.

At 10:00 AM, combined demand for parking is 1.72 vehicles per unit; with 0.25, 1.35, and 0.12 of demand derived on-street, in driveways/carports, and on surface lots, respectively.

**Figure L** illustrates demand ratios when contrasted to the built supply of parking (excluding garage capacity). For Ardenwald, combined supply totals 3.13 stalls of capacity serving a demand of 2.05 and 1.72 vehicles/unit, for the 2:00 AM and 10:00 AM occupancy periods, respectively.

**Figure L: Summary of Parking Demand and Built Supply**



<sup>24</sup> This does not include potential residential garage capacity, which totaled 156 stalls, which would raise the built ratio to 4.04.



## Heat Map Summary

**Figures M and N** provide a graphic illustration of occupancies at 2:00 AM and 10:00 AM, respectively. Data is provided for both the on-street system and the on-site systems using the demand color band formula described in the Lake Road summary (**Page 7**).

### On-street

Twelve of 19 block faces in the study area allow parking; seven block faces do not allow parking.<sup>25</sup> At the 2:00 AM hour, all 12 block faces with parking fall within the green color band (less than 55% occupancy). At this hour, the heat maps would indicate there is an abundance of on-street parking available and access to it is convenient, except those seven block faces where no parking is allowed.

At the 10:00 AM hour, 11 of the 12 on-street block faces with parking fall within the green color band (less than 55%). One block face on SE Rockwood Street (paralleling parcel block 315) falls within the orange band (84% - 70%). At this hour, the heat maps would indicate there is an abundance of on-street parking available and access to it is convenient, except those seven block faces where no parking is allowed.

### On-site

As with the Lewelling study area, the Ardenwald study area has very large parcel blocks, totaling just 7 blocks and 171 unique residential units. For purposes of this discussion, occupancy data is aggregated to the *parcel block* level. Use at the *individual parcel level* is not displayed to ensure that individual residential sites remain anonymous.

At the 2:00 AM hour, one of the parcel blocks (307) has demand that falls within the purple band, with the number of parked vehicles exceeding the observed supply. Three of 7 parcel blocks fall within the red band (100% - 85%); this includes parcel blocks 308, 313, and 314. One parcel block (315) has occupancies in the orange band (84% - 70%). The remaining parcel blocks (309 and 312) are yellow (69% - 55%).

At 2:00 AM, the heat maps indicate that parcels within certain blocks contain their parking demand on-site at a level that nearly matches supply. This was particularly true on parcel blocks 307, 308, 313, and 314. The remaining parcels appear to be containing their demand on-site given the overall low use of the on-street supply in the study area.

At the 10:00 AM hour, the heat maps provide visual evidence of residential vehicles leaving the area as there are noticeable drops in on-site occupancies in five of the seven parcels blocks. Only blocks 307 and 313 remain within the red or purple bands.

<sup>25</sup> There are 19 total block faces in the study area. Of this total, 7 block faces do not allow parking. This is for a number of reasons, which includes bus access along SE 32<sup>nd</sup> Avenue and narrow streets in other areas. We state this here as an anecdotal indicator of why on-site occupancies are higher than the other neighborhood study areas as parcel blocks abutting no-parking streets are more likely in the position of containing all their demand on-site.



Figure M: Parking Occupancy Heat Map - 2:00 AM

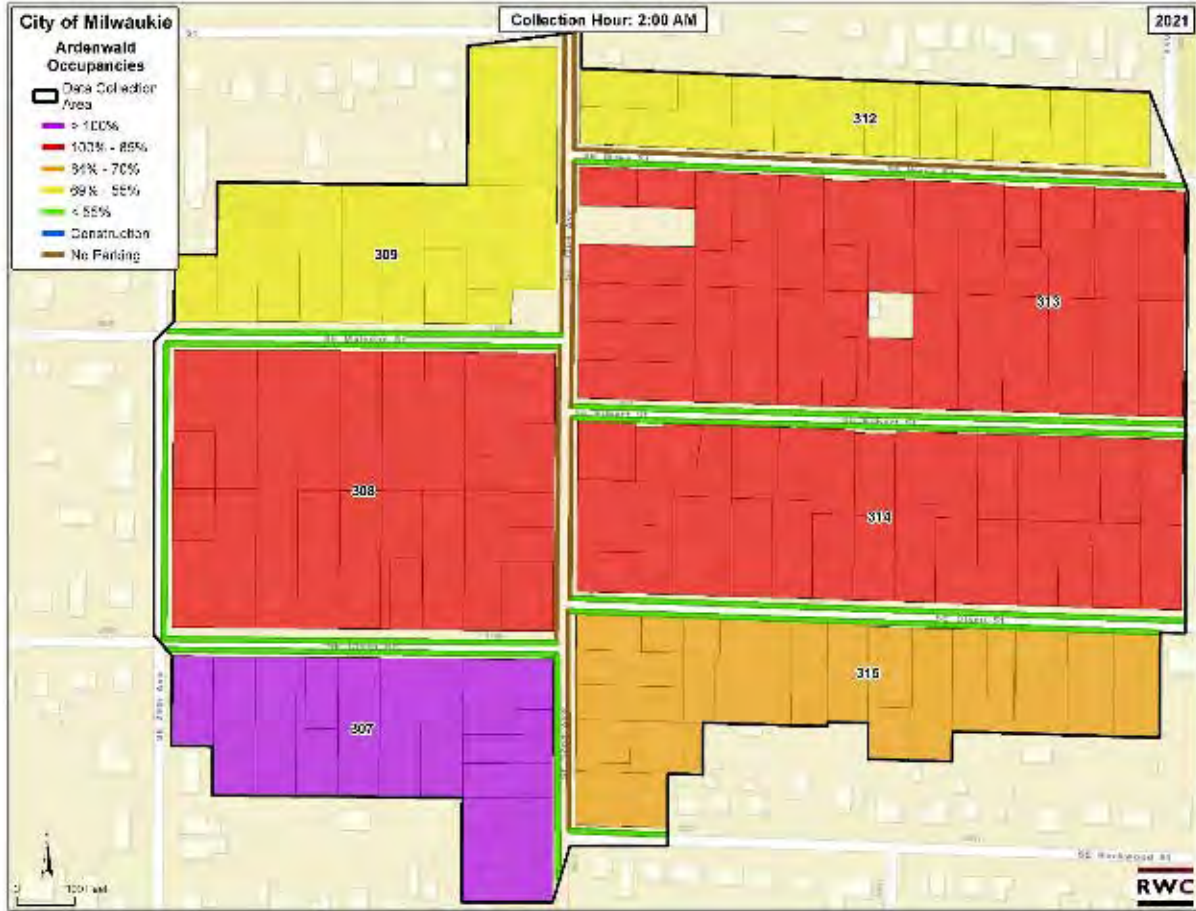
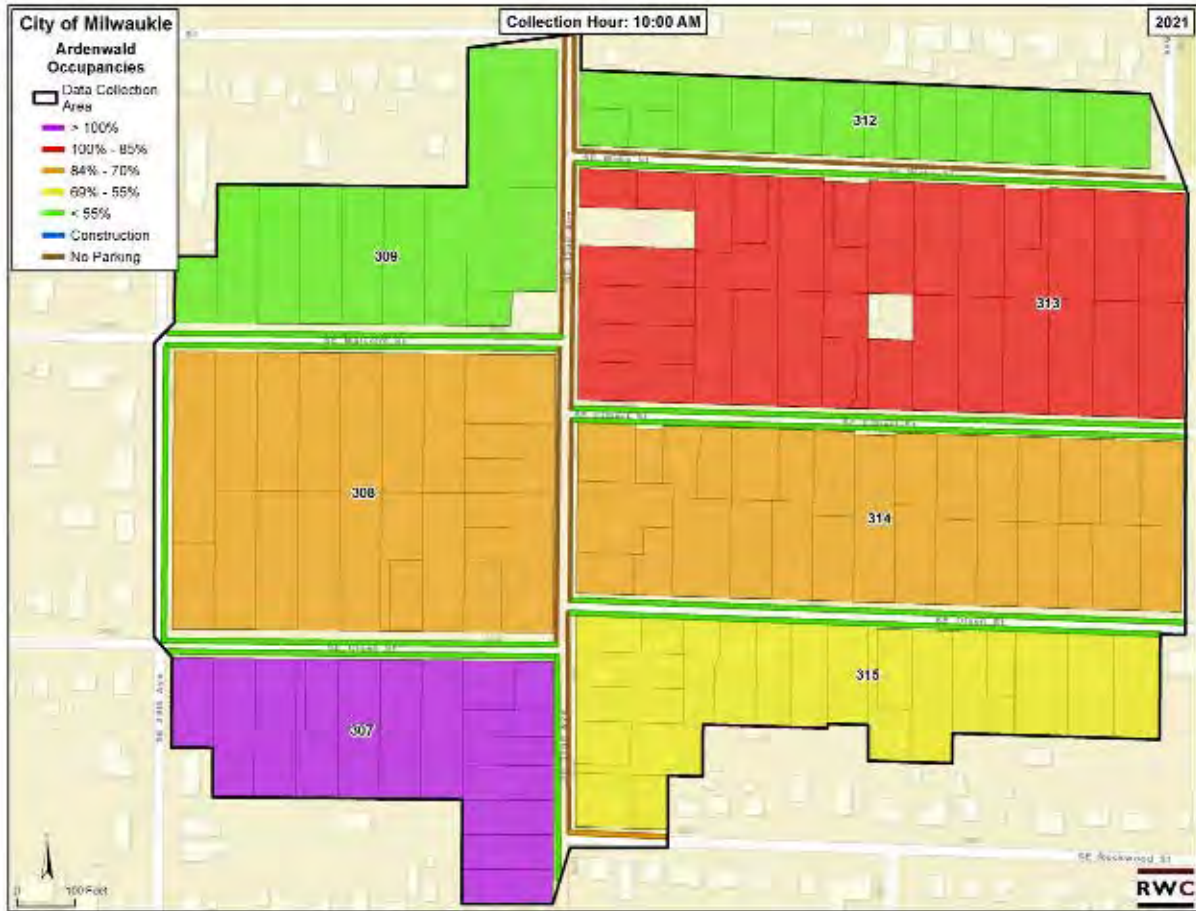




Figure N: Parking Occupancy Heat Map - 10:00 AM

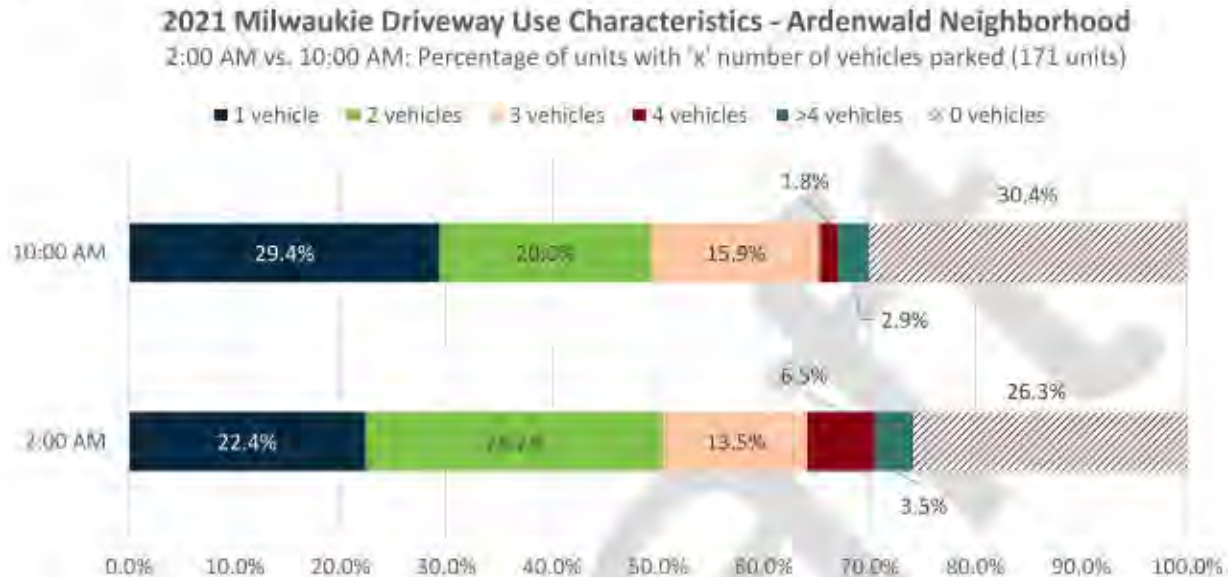




**Number of Vehicles Parked On-site - By Individual Parcels**

**Figure 0** provides a summary of the percentage of vehicles parked on-site at unique residential parcels within the Ardenwald study area.

*Figure 0: Summary of Use of Observed On-site Supply*



As the figure indicates, most vehicles parked at individual residential units ranges from zero (30.4%) to one (29.4%) at 10:00 AM. Units with 2 observed vehicles represented 20.0% of vehicles parked. The percentage of units observed to park 3 or more vehicles on-site during this data collection hour totals 20.6%, the highest percentage of all neighborhood study areas.

At 2:00 AM, the percentage of vehicles parked between 0 and 1 vehicles was 26.3% and 22.4%, respectively. As evidenced in the other study areas, the drop from 0 and 1, at this hour as compared to 10:00 AM, likely reflects residents returning from daytime trips (e.g., work, shopping, etc.). This is also reflected in the increase in 2 observed vehicles (raising to 28.2%) and units with 3 or more observed vehicles (raising to 23.5%).

**Summary - Ardenwald Neighborhood**

Data collected indicates that occupancies within the study zone are higher at the 2:00 AM hour, reflecting the minimum true demand for parking per residential unit: 2.05 vehicles/unit. There is higher overnight use of the on-site supply: 1.58/unit at 2:00 AM versus 1.35/unit at 10:00 AM. Notably, the 2:00 AM number is very near the total capacity of 1.68/unit on-site. Surveyors noted that in this study area, there was a high level of on-site vehicle storage (3 or more vehicles observed) than was evidenced in the Lake Road and Lewelling study areas.

The on-street system is not highly utilized by residential demand; there are 157 empty stalls at the 2:00 AM peak hour and 164 at 10:00 AM. Unlike other study areas, there are several block faces that do not allow parking, which may influence the high occupancy numbers on-site on several parcel blocks.



1.7 ISLAND STATION NEIGHBORHOOD

**Study Area**

The sample study area for the Island Station neighborhood is illustrated in **Figure P**.

The survey area for this neighborhood is comprised of 131 residential units, served by 541 parking stalls. Of the total stalls observed during data collection, 285 were on-street, 238 were in driveways/carport stalls, and 18 were on surface lots.<sup>26</sup> This is summarized in **Table 13**.

**Table 13: Island Station Neighborhood - Breakout of observed stalls and residential units**

	Island Station Neighborhood
<b>Total Parking Stalls Studied<sup>27</sup></b>	541
<b>On-Street Stalls</b>	285
<b>Driveway Stalls</b>	238
<b>Surface Lot Stalls</b>	18
<b>Residential Units</b>	131

**Figure P: Island Station Neighborhood Study Area Boundary and Parcel**



<sup>26</sup> An additional 148 stalls of residential "capacity" were estimated during the inventory in doored garages.

<sup>27</sup> Residential parking stalls only. "Other" and Garage uses excluded from this summary.



## Summary of Parking Occupancies

### On-Street Parking Demand

There are 285 on-street parking stalls within the Island Station neighborhood study area that serve residential uses. At the 2:00 AM data collection hour, 42 vehicles were observed parked in the on-street supply. This represents occupancy of 16.5%, leaving 212 empty stalls in the usable on-street inventory.

At 10:00 AM, 51 vehicles were observed parked in the on-street supply. This represents an occupancy of 20.1%, with 203 empty stalls available within the useable on-street inventory.

**Table 14** summarizes occupancy counts associated with the on-street supply.

**Table 14: Observed Occupancies – On-street Supply**

Performance Measure	On-Street Supply	
	On-Street Parking Supply: 285 stalls	
Collection Hour	2:00 AM	10:00 AM
Occupancy	16.5%	20.1%
Parked Vehicles <sup>28</sup>	42	51
RV/ Trailers	-	-
Construction/ Obstruction	31	31
<b>Empty stalls (unused supply)</b>	<b>212</b>	<b>203</b>

### On-Site Parking Demand (within parcels)

Use of on-site parking in the neighborhood is summarized in **Table 15**. In the Island Station neighborhood, there are 256 on-site parking stalls, 238 in driveway/carports, and 18 stalls on surface lots serving residential uses in this neighborhood.

At the 2:00 AM hour, 209 vehicles were observed parked within residential parcels, an occupancy of 81.6%. At this hour, there were 47 empty parking stalls within the on-site supply. At 10:00 AM, occupancies dropped to 77.7%, with 199 vehicles parked and 57 stalls empty.

**Table 15: Observed Occupancies – On-site supply**

Performance Measure	Parking Demand Observations	
	On-Site Parking Supply: 256 stalls	
Collection Hour	2:00 AM	10:00 AM
On-site Occupancy (combined)	81.6%	77.7%
Parked Vehicles (driveway/carport)	195 <sup>29</sup>	182 <sup>30</sup>
Parked Vehicles (surface lot)	14	17
<b>Empty stalls (unused supply)</b>	<b>47</b>	<b>57</b>

### Residential Parking Demand per Unit

**Table 16** summarizes occupancy data into parking demand per residential unit. Data is based on use within the entire 541 stall supply using observed vehicle occupancy numbers provided in **Tables 14** and **15** above. The table also allocates the demand for each unit between on-street and on-site occupancies to illustrate demand by stall type.

<sup>28</sup> Zero vehicles parked illegally.

<sup>29</sup> Of the vehicles parked, 24 are parked somewhere on-site other than the driveway.

<sup>30</sup> Of the vehicles parked, 15 are parked somewhere on-site other than the driveway.





**Table 16: Residential Parking Demand per Unit**

Performance Measure	Parking Demand per Unit	
	Residential Units: 131 Units	
	2:00 AM	10:00 AM
<b>On-Street Vehicles/Unit</b> (Supply: 2.18 stalls/unit)	0.36	0.44
<b>Driveway Vehicles/Unit</b> (Supply: 1.82 stalls/unit)	1.48	1.38
<b>Surface Lot Vehicles/Unit</b> (Supply: 0.14/unit)	0.11	0.13
<b>Total Vehicles/Unit</b> (Supply: 4.13 stalls/unit <sup>31</sup> )	<b>1.95</b>	<b>1.95</b>

As the table indicates, peak hour (2:00 AM) residential demand is 1.95 vehicles per unit. Of that total, 0.36 per unit is generated from vehicles parking on-street. Observed on-site demand is 1.59 vehicles per unit (1.48 in driveway/carports and 0.11 in surface lots).

At 10:00 AM, combined demand for parking is also 1.95 vehicles per unit; with 0.44, 1.38, and 0.13 of demand derived on-street, in driveways/carports, and on surface lots, respectively.

**Figure Q** illustrates demand ratios when contrasted to the built supply of parking (excluding garage capacity). For Island Station, combined supply totals 4.13 stalls of capacity serving a demand of 1.95 vehicles/unit for the 2:00 AM and 10:00 AM occupancy periods.

**Figure Q: Summary of Parking Demand and Built Supply**



<sup>31</sup> This does not include potential residential garage capacity, which totaled 148 stalls, which would raise the built ratio to 5.26.



## Heat Map Summary

**Figures R and S** provide a graphic illustration of occupancies at 2:00 AM and 10:00 AM, respectively. Data is provided for both the on-street system and the on-site systems using the demand color band formula described in the Lake Road summary (**Page 7**).

### On-street

There are 55 block faces in the study area. Eleven block faces do not allow parking, and at the time of the survey, 3 block faces were not available for parking because of construction (mainly on SE 22<sup>nd</sup> Avenue and SE River Road, between SE Wren and SE Bluebird Streets).

At the 2:00 AM hour, 42 of the 44 block faces that allow parking fall within the green color band (less than 55% occupancy). One block face fell within the red band (85% - 100%). This block face is located on east side of SE River Road, paralleling parcel block 122.<sup>32</sup> Another block face, on the north side of SE Bluebird Street (paralleling parcel block 103) fell into the yellow band (69% - 55%). At this hour, the heat maps indicate there is an abundance of on-street parking available. Interestingly, the parcel blocks most affected by lack of on-street parking (e.g., blocks 116 and 117) have moderate on-site parcel demand.

At the 10:00 AM hour, 41 of 44 block faces that allow parking fall within the green color band (less than 55% occupancy). Two block faces fall within the red band (85% - 100%); located on the east side of SE River Road, paralleling parcel block 122 and on the north side of SE Bluebird Street paralleling parcel block 113. One block face falls within the yellow band (69% - 55%) at the south side of SE Bluebird Street paralleling parcel block 104. As with the 2:00 AM counts, the heat maps indicate there is an abundance of on-street parking available at 10:00 AM.

### On-site

The Island Station study area totals 17 parcel blocks serving 131 unique residential units. For purposes of this discussion, occupancy data is aggregated to the *parcel block* level. Use at the *individual parcel level* is not displayed to ensure that individual residential sites remain anonymous.

At the 2:00 AM hour, three parcel blocks (108, 112, 115) fall within the purple band, with total parcel block demand in excess of observed supply (greater than 100%). This likely indicates high vehicle ownership and storage on parcels, which impact the overall parcel block demand number for those high demand blocks.<sup>33</sup>

Another five parcel blocks fall within the red band (100% - 85%); this includes parcel blocks 103, 104, 111, 118, and 123). Four parcel blocks (105, 116, 117, and 122) are yellow (69% - 55%). The remaining five parcel blocks fall within the green band (less than 55%).

At the 10:00 AM hour, three parcel blocks (112, 115, 123) fall within the purple band (greater than 100%), a slight change from the 2:00 AM count when parcel block 108 was purple and parcel block 123 was red. Two parcel blocks remain red at the 10:00 AM hour (108 and 111). Three parcel blocks (104, 117, and 118) fall within the orange band (70% - 84%), and two (105 and 116) fall within the yellow band (69% - 55%). The remaining seven parcel blocks fall within the green band (less than 55%).

The heat maps provide visual evidence of residential vehicles shifting both out of and within the study zone, based on the overall per unit demand levels for parking (1.95 vehicles/unit) staying consistent between the two occupancy counts (see **Table 16** and **Figure S**).

<sup>32</sup> Occupancy on this block face may have been influenced by the adjacent construction.

<sup>33</sup> As noted above in footnotes 29 and 30 (**Page 27**), surveyor field notes indicated a high number of vehicles parked on parcels in excess of reasonable driveway/carport capacity.



Figure R: Parking Occupancy Heat Map - 2:00 AM

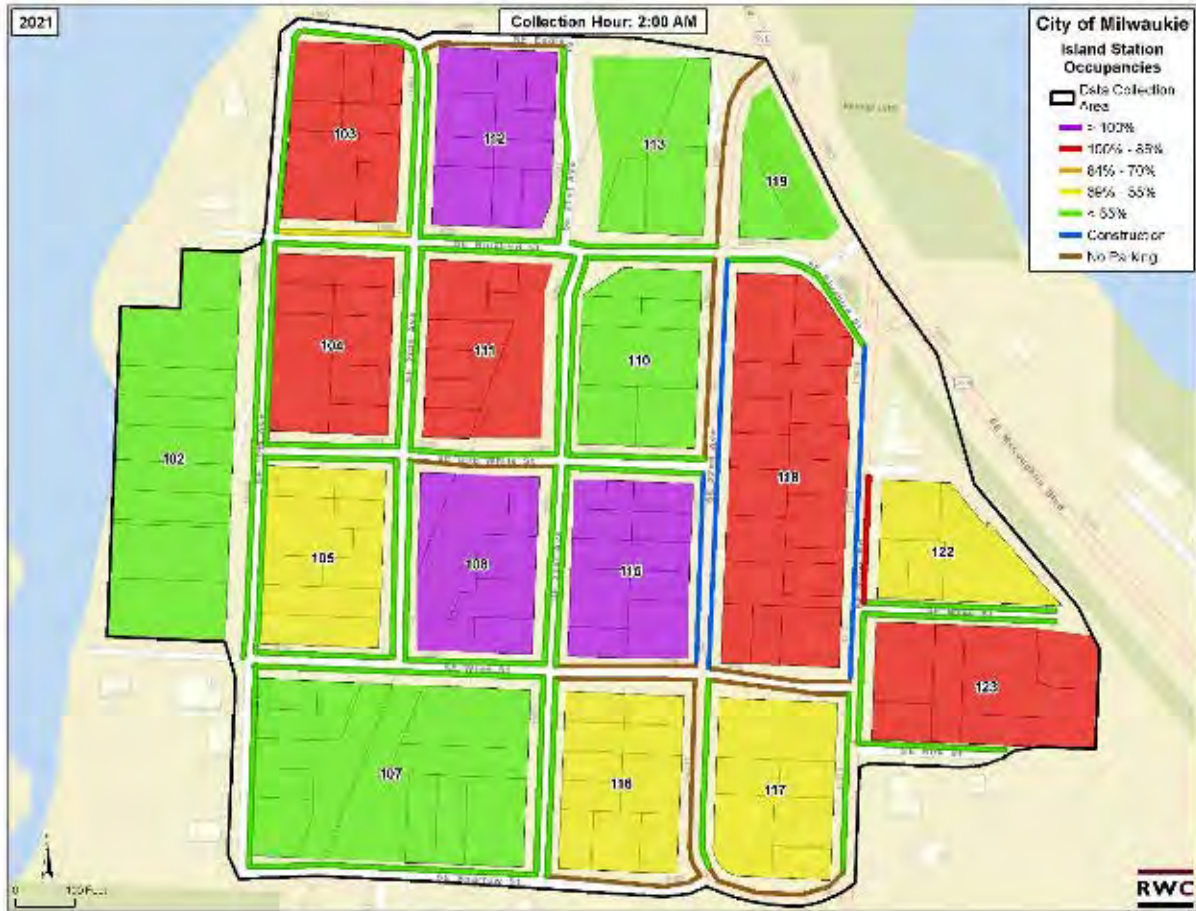
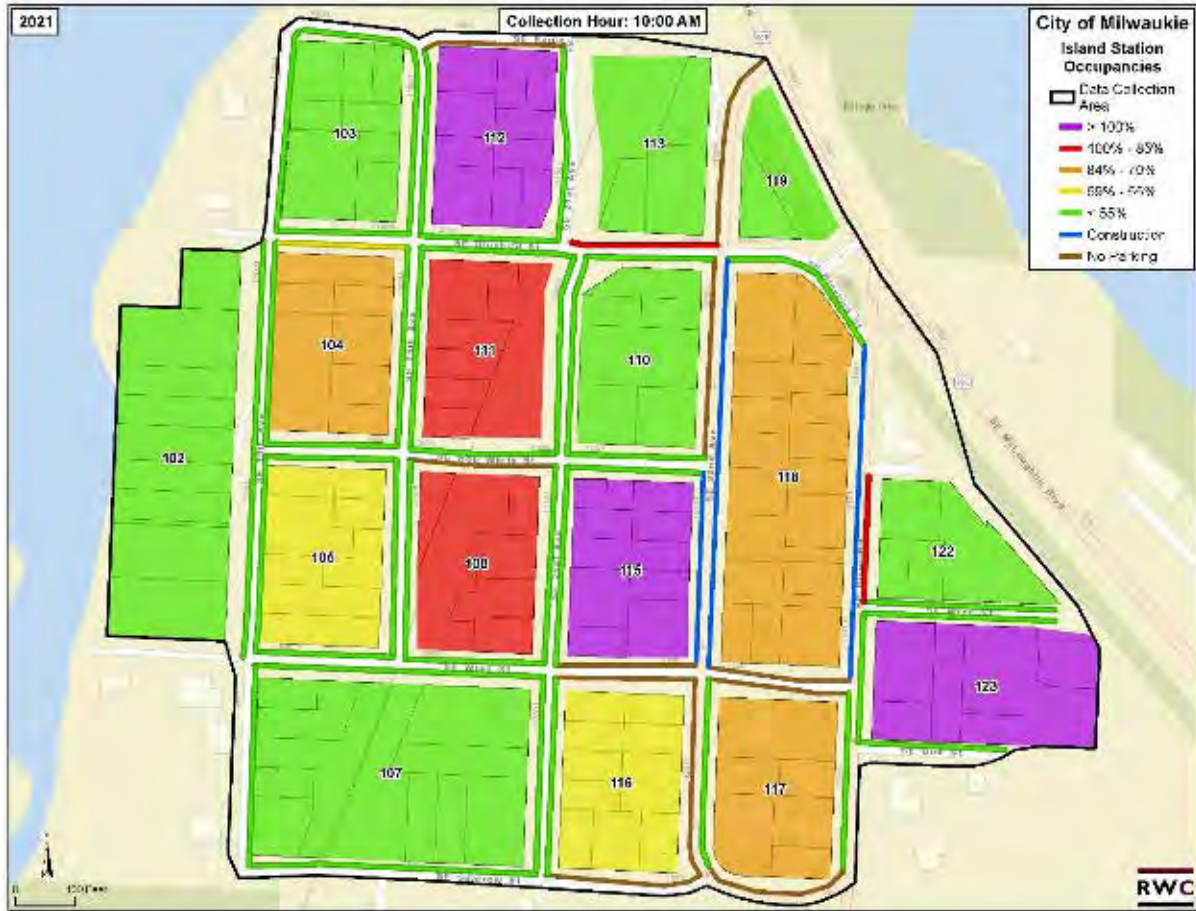




Figure S: Parking Occupancy Heat Map - 10:00 AM

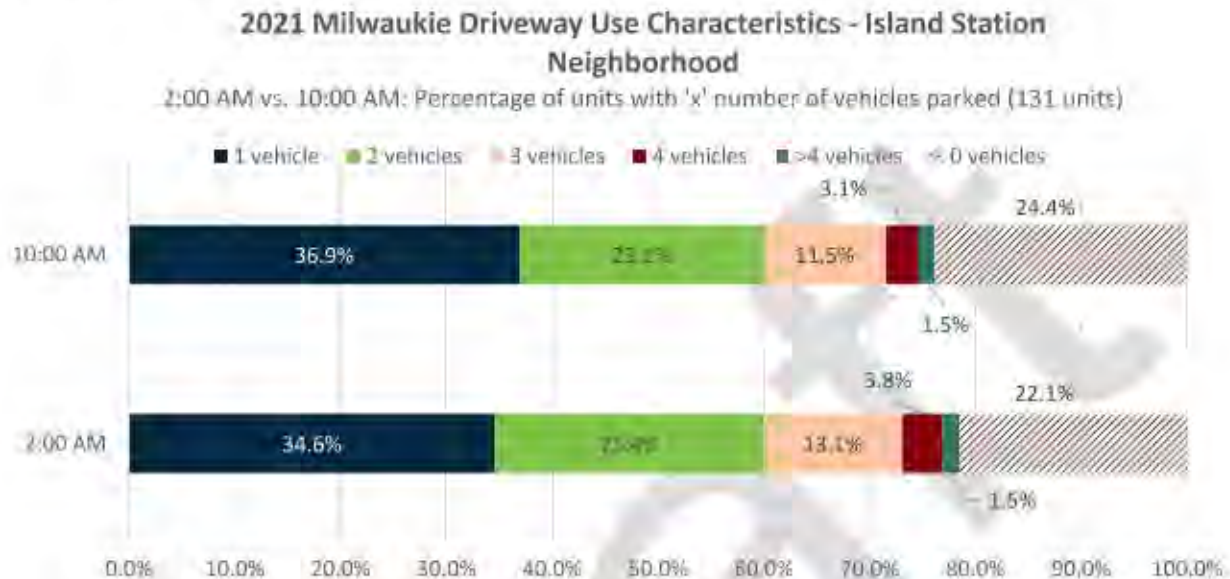




### Number of Vehicles Parked On-site - By Individual Parcels

**Figure T** provides a summary of the percentage of vehicles parked on-site at unique residential parcels within the Island Station study area.

**Figure T: Summary of Use of Observed On-site Supply**



As the figure indicates, most vehicles parked at individual residential units ranges from zero (24.4%) to one (36.9%) at 10:00 AM. Units with 2 observed vehicles represented 23.1% of vehicles parked. The percentage of units observed to park 3 or more vehicles on-site during this data collection hour totals 16.1%.

At 2:00 AM, the percentage of vehicles parked between 0 and 1 vehicles was 22.1% and 34.6%, respectively. As evidenced in the other study areas, the drop from 0 and 1, at this hour as compared to 10:00 AM, likely reflects vehicles returning from daytime trips (e.g., work, shopping, etc.). This is also reflected in the increase in 2 observed vehicles (raising to 25.4%) and units with 3 or more observed vehicles (raising to 18.4%).

### Summary - Island Station Neighborhood

Data collected indicates that occupancies within the study zone are constant with the minimum true demand for parking per residential unit at 1.95 vehicles/unit. At the 2:00 AM peak hour, nearly half of all parcel blocks (8 of 17) have demand in the red and purple range. Surveyors did note that like the Ardenwald study area, there was a higher level of on-site vehicle storage than was evidenced in other neighborhood study areas (i.e., Lake Road and Lewelling).

The on-street system is not highly utilized by residential demand; there are 212 empty stalls at the 2:00 AM peak hour and 203 at 10:00 AM. Like Ardenwald, there are several block faces that do not allow parking. Also, three block faces were not available for use due to construction at the time of the survey, which may be influencing the high occupancy numbers on-site on some parcel blocks. Additionally, on-street parking in the Island Station neighborhood is not well-delineated, with many areas requiring residents to park on grass or gravel; this environment likely contributes to reduced on-street demand.



## 1.8 SUMMARY

Averaged over all four study areas, the combined **minimum residential peak parking demand** during the overnight peak hour, including on-street and visible on-site parking, was found to be **1.99 vehicles per residential unit**. On-street parking contributes 0.48 vehicles per unit, and on-site parking (including driveways and surface lots) contribute the remaining 1.51 vehicles per unit. Parking demand in garages could not be observed or estimated in the field. However, it is known that additional demand in garages could contribute anywhere from 0.00 additional vehicles per residential unit (assuming no parking demand in garages) up to 1.09 additional vehicles per unit (if all garage stalls are completely occupied with vehicles).

Each neighborhood has unique characteristics, but on-site parking (excluding garage demand) makes up **at least 75% of the total residential parking demand** on average (ranging from 57% to 86% of the observed demand within each neighborhood).

Additionally, the on-site system is much more heavily utilized than the on-street parking system. On average, on-site parking stalls were found to be **77% occupied** during the peak hour, averaged over all four study areas. By contrast, the on-street system was found to be **23% occupied** during the peak hour across all four study areas. Overall, the entire observable residential parking system (excluding garages) was found to be **49% occupied** during the overnight peak hour.

The following table summarizes the supply and demand across all four neighborhoods. Demand observations shown represent the 2:00 AM overnight hour, which was found to be the peak hour for all four neighborhoods<sup>34</sup>.

**Table 17: Overall Residential Parking Demand per Unit**

		Lake Road	Lewelling	Ardenwald	Island Station	Total
<b>Residential Units</b>		190	154	171	131	646
<b>Supply</b>	<b>On-Street Stalls/Unit</b>	2.37	2.64	1.20	2.18	2.09
	<b>Driveway Stalls/Unit</b>	1.75	2.29	1.68	1.82	1.87
	<b>Surface Lot Stalls/Unit</b>	-	-	0.25	0.14	0.09
	<sup>35</sup> <b>Total Stalls Studied/Unit</b>	<sup>36</sup> 4.12	<sup>37</sup> 4.93	<sup>38</sup> 3.13	<sup>39</sup> 4.13	<sup>40</sup> 4.05
<b>Demand*</b>	<b>On-Street Vehicles/Unit</b>	0.89	0.29	0.29	0.36	0.48
	<b>Driveway Vehicles/Unit</b>	1.16	1.60	1.58	1.48	1.44
	<b>Surface Lot Vehicles/Unit</b>	-	-	0.18	0.11	0.07
	<sup>41</sup> <b>Total Vehicles/Unit</b>	2.05	1.89	2.05	1.95	1.99

\*All demand observations shown represent the 2:00 AM overnight peak hour.

<sup>34</sup> On-street and surface lot demand were slightly higher at 10:00 AM for the Island Station neighborhood, but overall demand was equivalent at both 2:00 AM and 10:00 AM so the 2:00 AM hour is used in the summary table for consistency with other neighborhoods.

<sup>35</sup> Residential parking stalls only. "Other" and garage uses excluded from this summary.

<sup>36</sup> This does not include 0.84 residential garage stalls per unit, which would raise the built ratio to 4.96.

<sup>37</sup> This does not include 1.57 residential garage stalls per unit, which would raise the built ratio to 6.50.

<sup>38</sup> This does not include 0.91 residential garage stalls per unit, which would raise the built ratio to 4.04.

<sup>39</sup> This does not include 1.13 residential garage stalls per unit, which would raise the built ratio to 5.26.

<sup>40</sup> This does not include 1.09 residential garage stalls per unit (combined average for all neighborhoods), which would raise the built ratio to 5.14.

<sup>41</sup> Residential parking only. "Other" and garage parking excluded from this summary.



**TERAGAN**  
& ASSOCIATES, INC.  
ARBORICULTURAL CONSULTANTS

**MEMORANDUM**

**DATE:** April 8, 2021  
**TO:** Marcy McInelly (Urbsworks)  
**FROM:** Todd Prager, RCA #597, ISA Board Certified Master Arborist  
**RE:** Updated Tree Code Draft Outline

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The following is an updated draft outline of the tree code with additional detail:

1. Purpose
  - A. Describe benefits of trees
    - a) Essential part of vibrant community
    - b) Improve health outcomes
    - c) Provide stormwater quality and quantity benefits
    - d) Provide increased property values
    - e) Provide air quality benefits
    - f) Tool for combating climate change
  - B. Connect code regulations to Comp Plan and Urban Forest Management Plan
    - a) Implement Comp. Plan Goal 3.4 (Healthy Urban Forest)
    - b) Implement Urban Forest Management Plan Focus Areas for Forest Size, Forest Health, and Age and Species Diversity
  - C. Describe need for regulating trees in residential zones
    - a) 80% of tree canopy is on private property
    - b) Vast majority of land in Milwaukie is zoned residential
    - c) City goal is to reach 40% tree canopy by 2035
    - d) Need to maximize preservation of existing tree canopy with increased density of needed housing
    - e) Need to ensure adequate future tree canopy is provided with the development of needed housing to support City goals
2. Applicability
  - A. Zones where regulations apply
    - a) R-1
    - b) R-1-B
    - c) R-2; R-2PD
    - d) R-2.5
    - e) R-3
    - f) R-5
    - g) R-7; R-7PD
    - h) R-10; R-10PD

- B. Types of development where regulations apply
  - a) Land divisions
  - b) Increased dwelling units on lots of record (i.e. duplex, triplex, quadplex development where there is a single dwelling)
  - c) Construction of new dwelling units on vacant lots
  - d) Demolition and construction of new dwelling units (even when number of dwelling units does not increase)
- 3. Tree Preservation Standards
  - A. Trees subject to preservation
    - a) Trees over 6-inch trunk diameter (DBH)
    - b) Slow growing, rare, or threatened species such as Oregon white oak and Pacific madrone that are less than 6-inch DBH
  - B. Minimum tree preservation standards (e.g. % or # of trees)
    - a) Identify and rank priority tree species and site locations
      - i. Healthy native climax species
      - ii. Healthy native groves of primarily climax species
      - iii. Healthy non-native, non-nuisance climate resilient and long-lived species
      - iv. Large diameter healthy native and non-native/non-nuisance climate resilient and long-lived trees
      - v. Healthy native and non-native/non-nuisance climate resilient and long-lived trees that buffer natural resource areas, screen new and existing development, and provide shading for new and existing development
      - vi. Other healthy earlier successional native groves of trees where climax species are not dominant
    - b) Removal of priority species only approved for construction of improvements, required grading, and utilities
    - c) No less than 33% of existing priority tree canopy may be removed at a site
    - d) Recommend pre-screening meeting with City Arborist to identify priority trees as part of preapplication process (administrative procedure, not in code)
  - C. Mitigation requirements if preservation standards are not met
    - a) Fee in lieu of preservation based on caliper inch of largest priority trees that would meet 33% threshold if preserved
    - b) Use City of Portland fee in lieu as model
    - c) Use administrative fee rather than including fee in code
    - d) Fees can be used by City of Milwaukie for offsite mitigation which can include preservation of existing trees and/or planting of new trees in identified priority areas (e.g. areas with low tree canopy cover, priority watersheds, etc.)
  - D. Discretionary review alternative if preservation standards are not met
    - a) As an alternative to mitigation fees for preservation, applicants can propose equivalent environmental or public benefits



- b) Process could be a variance (MMC 19.911) with the Tree Board serving in an advisory role to the Planning Commission
  - c) Alternatives could include:
    - i. Techniques that minimize hydrological impacts beyond regulatory requirements (e.g. porous pavement, green roofs, infiltration planters/rain gardens, flow through planters, LIDA swales, vegetated filter strips, vegetated swales, extended dry basins, and constructed water quality wetlands)
    - ii. Techniques that minimize reliance on fossil fuels and production of greenhouse gases beyond regulatory requirements through the use of energy efficient building technologies and on-site energy production technologies
    - iii. Techniques that preserve and enhance wildlife habitat beyond regulatory requirements, including, but not limited to, the use of native plant species in landscape design, removal of invasive plant species, and restoration of native habitat and preservation of habitat through the use of conservation easements or other protective instruments
  - E. Tree protection standards for trees to be retained
    - a) Requires tree protection fencing and other standards to protect trees that are retained to meet preservation requirements
    - b) Use prescriptive path (from City of Portland Code)
    - c) If prescriptive path is not feasible, use performance path developed by certified arborist (from City of Portland Code)
4. Tree Canopy Standards
- A. Minimum tree canopy requirements (e.g. % canopy per lot)
    - a) Establish a minimum tree canopy coverage requirement per project
    - b) Can be met through preservation of existing tree canopy and planting new tree canopy
    - c) Consensus not yet reached on specific tree canopy percentages but 40% coverage has been discussed for consistency with Comp. Plan and Urban Forest Management Plan
    - d) Canopy standards can be tiered based on allowed density for residential zoning districts
  - B. How tree canopy requirements can be met (i.e. through preservation of existing trees and planting new trees)
    - a) Existing tree canopy that is preserved and protected is eligible for canopy coverage credit
    - b) New priority native and non-native/non-nuisance climate resilient trees are eligible for credit based on their mature canopy sizes

- c) Street trees that are adjacent to the site are eligible for 50% canopy credit
- d) Create standards for adequate tree spacing and building setbacks
- C. Soil volume requirements for new tree planting
  - a) Require access to 1,000 cubic feet of adequate soil volume per tree
  - b) Soil volumes for tree planting must be protected during construction in similar manner as soils surrounding existing trees are protected
  - c) If protection is not possible, soil improvement for tree planting must be implemented and verified by certified arborist to ensure adequate drainage, nutrients, and compaction levels to support newly planted trees
- D. Mitigation requirements if canopy standards are not met
  - a) Fee in lieu of canopy based on the square footage of canopy that would be needed to meet minimum canopy %
  - b) Use City of Tigard fee in lieu as model
  - c) Use administrative fee rather than including fee in code
  - d) Fees can be used by City of Milwaukie for offsite mitigation which can include preservation of existing trees and/or planting of new trees in identified priority areas (e.g. areas with low tree canopy cover, priority watersheds, etc.)
- E. Discretionary review alternative if canopy standards are not met
  - a) As an alternative to mitigation fees for providing tree canopy, applicants can propose equivalent environmental or public benefits
  - b) Process could be a variance (MMC 19.911) with the Tree Board serving in an advisory role to the Planning Commission
  - c) Alternatives could include:
    - i. Techniques that minimize hydrological impacts beyond regulatory requirements (e.g. porous pavement, green roofs, infiltration planters/rain gardens, flow through planters, LIDA swales, vegetated filter strips, vegetated swales, extended dry basins, and constructed water quality wetlands)
    - ii. Techniques that minimize reliance on fossil fuels and production of greenhouse gases beyond regulatory requirements through the use of energy efficient building technologies and on-site energy production technologies
    - iii. Techniques that preserve and enhance wildlife habitat beyond regulatory requirements, including, but not limited to, the use of native plant species in landscape design, removal of invasive plant species, and restoration of native habitat and preservation of habitat

through the use of conservation easements or other protective instruments

5. Tree Plan Submittal Requirements
  - A. Arborist requirements
    - a) ISA certified arborist
    - b) ISA qualified tree risk assessor (TRAQ)
    - c) Sufficient knowledge and experience in tree preservation, planting, and soil volume techniques to meet tree code requirements
  - B. Site plan requirements
    - a) Tree inventory
      - i. Table of tree species, size (dbh), crown spread, condition, identification of priority species, pertinent comments, and treatment (remove or retain)
      - ii. Tree inventory numbers must correlate to numbers on site plans
    - b) Tree protection plan
      - i. Site plan drawn to scale
      - ii. Existing tree locations with tree numbers
      - iii. Tree canopy to scale
      - iv. Tree/soil protection fencing dimensions to scale
      - v. Proposed construction impacts including demolition, construction, grading, utilities, paving, and other disturbances that can impact trees
      - vi. Protection notes by project arborist on plans for use by contractors in the field
    - c) Tree planting (canopy) plan with soil volumes
      - i. Site plan drawn to scale
      - ii. Existing tree canopy to scale
      - iii. Proposed canopy of newly planted trees to scale
      - iv. Soil volume areas for each tree to be planted to ensure protection and/or improvement/access to 1,000 cubic feet of soil volume
      - v. Calculations that demonstrate percent tree canopy that will be provided
6. Definitions (list of defined terms when needed for clarity)
7. Enforcement
  - A. Describes penalties for non-compliance with code provisions
  - B. Specifies that City is ultimate decision maker to define items such as what constitutes priority trees, adequate tree protection, and whether preservation and canopy standards are met
8. Potential non-development regulations to prevent pre- and post-development tree removal (may not be in development code)
  - A. Non-development permits required to remove priority trees in residential zones

- B. Establish administrative criteria for tree removal including but not limited to dead, dying, high risk, forest health management
- C. Discretionary option may be included to allow for relandscaping, construction of building additions, etc. and Tree Board may serve as review body (not a land use process)

DRAFT



**Date:** 07 April, 2021  
**Subject:** Milwaukie Comprehensive Plan Implementation – Residential Neighborhood Open Space Ideas  
**To:** CPIC Members, City of Milwaukie Project Management Team  
**From:** Marcy McInelly AIA, Urbsworks, Inc.

## Background

Concern has been raised by CPIC members that the re-zone of residential zones to permit middle housing types will preclude preservation of open space. Private open space is currently found both on larger parcels and on smaller parcels developed with small footprint residential uses. The value of this open space is multifold; it offers an important connection to nature and Milwaukie’s agricultural history; it provides tree canopy and important habitat corridors, and opportunities for and access to urban agriculture. The CPIC believes that the goals of increasing housing options while maintaining areas of open space are not mutually exclusive.

The question has been asked: While we are rethinking single family zoning and have been asked to “think big and be bold,” can open space be created within the single family residential zones? In seeking an answer, it is important to clarify that creating open space on land that has already been platted and is privately owned is limited by property ownership issues. Most, if not all, of the land area that is the focus of this phase of the Comprehensive Plan Implementation Project is currently in private ownership. Obviously one way that open space could be created is through condemnation and a “taking” (taking property out of private ownership), but that is a strategy most cities try to avoid.

Outside of condemnation and property takings, there are a few examples, and this memo describes some of them. A few links are provided below to examples of relevant examples of creative ideas, individuals, and approaches that have been taken to address similar concerns.

## Preserving open space on non-profit or publicly owned land

One approach is for a non-profit or municipality to own property and hold in perpetuity to achieve open space, ecological or agricultural goals.

### Conservancies and trusts for preservation of agricultural land and heritage

Zenger Farms –A non-profit leases land from the City of Portland in partnership with the Bureau of Environmental Services to protect watershed from development and provide environmental and sustainable urban agriculture education. <https://zengerfarm.org>

Luscher Farm – City of Lake Oswego purchased 150-acres to establish a rural buffer from surrounding development within the Urban Growth Boundary. Master Plan emphasizes preserving the area’s rural feel and history while creating recreation opportunities and increasing agriculture through community gardens and farms.

<https://www.oregonlive.com/lake-oswego/2013/07/lake-oswego-adopts-plan-preser.html> and <https://www.luscherfriends.org/our-mission>

### Acquiring land for natural resource protection

Johnson Creek Willing Sellers Program – The City of Portland established a “willing sellers” program to buy residential property for the purposes of restoring Johnson Creek in SE Portland. It is a program managed by Bureau of Environmental Sciences, funded by FEMA, HUD grants, and City of Portland stormwater funding. It purchases the properties, removes housing from the floodplain and restores Johnson Creek wetland and floodplain habitat. <http://nrcsolutions.org/johnson-creek-restoration-portland-oregon/> and <https://pamplinmedia.com/sb/74-news/125024-willing-sellers-help-restore-johnson-creek-floodplain>

North Coast Land Conservancy – This is an example of a nonprofit organization (land conservancy) formed to protect natural areas. NCLC has conserved thousands of acres of land by acquiring outright or by acquiring conservation easements on private land, as well as transferring lands to public ownership. Recently the trust transferred ownership of a habitat area to the Clatsop-Nehalem Confederated Tribes to address the Tribe’s historic displacement from the land. [https://www.dailyastorian.com/news/local/tribes-regain-foothold-in-south-county/article\\_d29870aa-8ee5-11ea-9e97-7f13ef59ae12.html](https://www.dailyastorian.com/news/local/tribes-regain-foothold-in-south-county/article_d29870aa-8ee5-11ea-9e97-7f13ef59ae12.html)

## **Preserving open space on individually owned land**

Creative ownership arrangements and site designs can be used to preserve private open space. Mostly these involve clustering homes together to preserve open space and/or designing the open space as a centerpiece of the development. Specific designs include cohousing, cottage clusters, and ADUs . Cohousing is an ownership structure, not a land use or a defined housing type, therefore it is not limited by zoning – now or under HB 2001. Additionally, there is nothing in the definition of “household” in Milwaukie’s code that now or will require household members to be related, as is the case in other cities.

### **Cohousing**

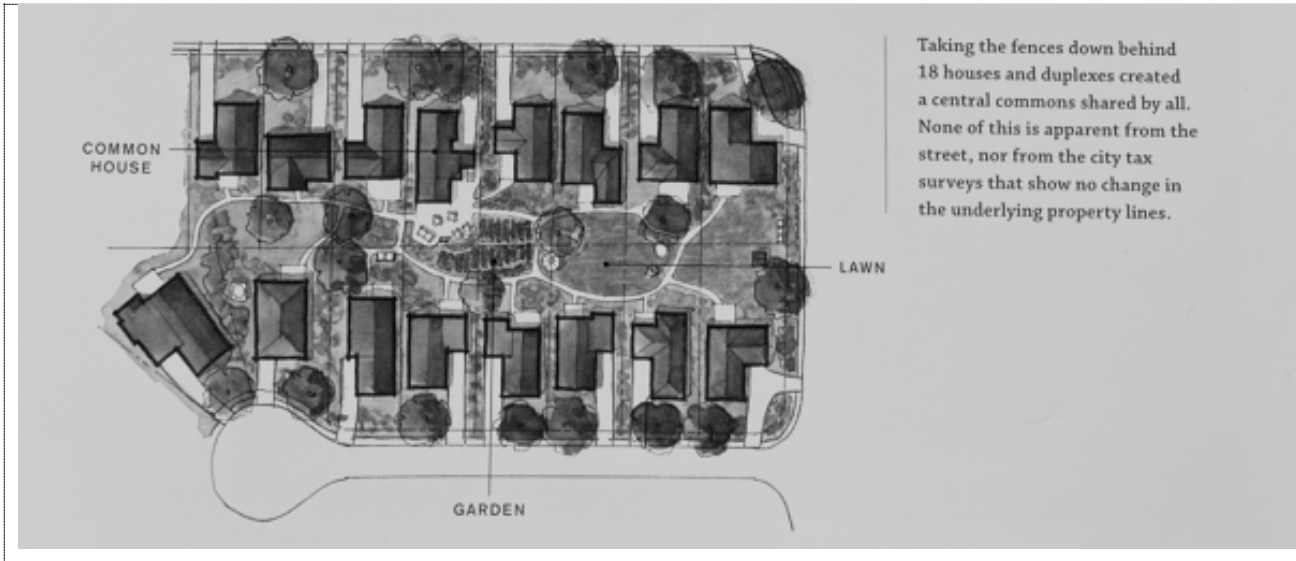
As an ownership and legal structure, cohousing is not dependent on lot size or zoning regulations to exist. Below are two examples in Portland, Oregon. The first is urban in form and transit-served; the second is on larger lots and is more rural in character. Both are examples of clustering homes to preserve open space and promote agricultural activities.

Daybreak Cohousing - Small lot, dense cohousing—Multigenerational cohousing for 30 households on 2/3 of an acre; located on a transit corridor in compact, stacked form. <https://www.daybreakcohousing.org>

Cully Grove - Large lot cohousing – Multigenerational cohousing with 16-units on 2-acre lot oriented around shared open space and garden. <https://cullygrove.org/#>

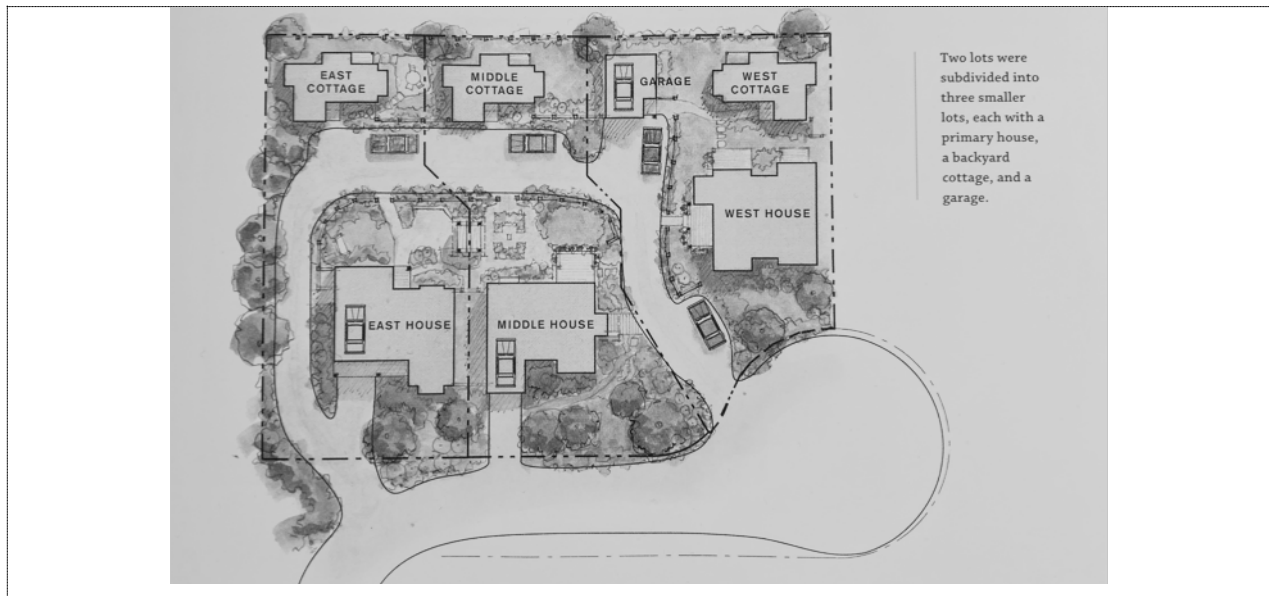
### **Creative site designs**

Sharing backyards – originally a typical subdivision constructed in the 1950s was transformed over time as one individual purchased two homes and removed fences. Over time, he has established a “retro-fit” co-housing community that adds one house at a time as they become available and takes down the fences to integrate the backyards into a shared common open space. <http://nstreetcohousing.org> and <https://liffeedited.com/whats-right-with-this-picture/>



Source: *Pocket Neighborhoods, Creating Small-scale Community in a Large-scale World*, Ross Chapin, Taunton Press (2011)

Sharing ADUs –In this example an architect designed three lots to share ADUs at the back of lots, while providing access with shared drive. The design preserves existing lot lines while breaking up the massing into a finer scale and character and permitting more flexibility in use.



Source: *Pocket Neighborhoods, Creating Small-scale Community in a Large-scale World*, Ross Chapin, Taunton Press (2011)

Milwaukie Comprehensive Plan Implementation Project  
Comprehensive Plan Implementation Project Committee Meeting #6  
March 18, 2021 6:00-9:00 pm

## Meeting Summary

### Members Present

- Joel Bergman
- Micah Meskel
- Nicole Zdeb
- Renee Moog
- Sharon Johnson
- Celestina DiMauro
- Daniel Eisenbeis
- Matthew Bibeau
- Stephan Lashbrook
- Eugene Zaharie
- Jennifer Dillan
- Lauren Loosveldt
- Lisa Batey, City Councilor

### Members Not Able to Attend

- Dominique Rossi
- Joseph Edge, Planning Commissioner
- Ada Gonzalez

### City of Milwaukie

- Vera Kalias, Senior Planner
- Mary Heberling, Assistant Planner
- Natalie Rogers, Climate Action Plan and Sustainability Manager
- Peter Passarelli, Public Works Director
- Leila Aman, Community Development Director
- Laura Weigel, Planning Manager

### Consultant Team

- Marcy McInelly, Urbsworks
- Pauline Ruegg, Urbsworks
- Kimi Sloop, Barney & Worth

The meeting began at 6:05 pm.



## **Public Engagement**

Kimi Sloop, Barney & Worth, gave an overview of the upcoming public engagement scheduled for March, which includes a virtual open house and survey on Engage Milwaukie, and several meeting-in-a-box presentations. She noted that nine meetings have been completed to date and two additional meetings are scheduled, including one in Spanish. There was discussion about the CPIC reaching out to people to encourage participation in the community survey, the opportunity to hold additional meeting-in-a-box presentations, and efforts made for increasing participation and equity in the participation.

Vera Kalias, Project Manager with the City of Milwaukie, summarized how the Engage Milwaukie open house/survey is being advertised. She said that she would provide a list to CPIC members of who was sent a direct invitation to participate in the open house/survey as well as an email invitation that CPIC members can modify to invite others to participate in the open house/survey. She noted that she had not heard from CPIC members with an interest in hosting additional meetings, and that staff is willing to hold more meetings if CPIC members are interested.

Kimi Sloop gave a preview of the community survey. She noted that the purpose of the questions is to seek input on the public's preference on prioritization of housing, trees and parking and the trade-offs required, and to introduce the concept of a flexible code.

CPIC discussed the survey question related to code flexibility in the context of the committee charge – what elements of the Comprehensive Plan is the CPIC looking at? Concern was expressed that if the project only considers comprehensive plan changes to the middle housing requirements, it is not going far enough. Several members expressed a desire to have the code recommendations look beyond housing to the larger concepts addressed in the code - more of a holistic approach to looking at all code policies. Staff noted that the project is looking at the code concepts, beyond House Bill 2001, and a context-sensitive approach to be able to address multiple topics, including housing, trees and parking. This project is the first phase of implementation. There are other projects addressing other elements of the code. It was suggested that the open house include the key policies from the comprehensive plan that are being furthered by the code concepts under discussion by the CPIC.

CPIC members also made suggestions to clarify language in other questions. How CPIC input versus public input is being weighed in the process was discussed. It was noted that the information and questions for input come before the CPIC for discussion before it has been taken to the community. The CPIC input frames the feedback sought from the community.

## **Expanded FAQ**

Vera Kalias and Marcy McNelly, Urbsworks Project Manager, reviewed several topics from the expanded FAQ document in response to previous CPIC member inquiries. Vera noted that the expanded FAQ did not adequately address home ownership in the sense that although the code can't require home ownership, it can encourage it. The FAQ document will be updated.

## HB 2001

Marcy McNelly reviewed what is required under HB 2001. Middle housing types are permitted in any zone that also permits single detached homes. Duplexes are permitted on all lots that also permit single detached homes. Other middle housing types are permitted on lots based on minimum lot size rather than zone. Marcy commented that at the last meeting, the CPIC talked about reducing the number of residential zones in the City. There appeared to be general agreement of reducing the number of zones from the current eight to three. The question on the table is whether or not R-10 should remain its own zone or be consolidated with R-5 and R-7.

The CPIC discussed what is occurring in R-10 zones today, and what could occur in the future, the history behind having different zones in cities, and if the unintended consequences of combining the zones. The CPIC also discussed how open space and agriculture is thought of with zoning, especially R-10, and how to preserve open space on private property. It was noted that larger designated lots may have been zoned for agricultural uses, not just housing, and have historical significance.

The CPIC discussed smaller lots and parking issues. They discussed the benefits of locating smaller lots near transit, the ability to consolidate lots for more dense housing, how many dwellings are feasible on different sized lots, and how higher density does not necessarily mean affordable. It was noted that some residential zones allow commercial uses, and how that is addressed with consolidated zones is still to be determined.

## Tree Code

Marcy McNelly explained that the tree code being created as part of this project will apply to private, residential property, and will not apply to commercial or industrial uses. The code requirements will address both currently vacant and developed lots. She noted that more details about the draft tree code will be presented at the April meeting. It was noted that the Tree Board has looked at the code concepts, but not seen actual code language.

## Parking Study

Marcy McNelly explained that the parking study is a technical analysis of where parking is available and how it is being used. She described the general methodology and noted that Rick Williams will be at the April meeting to present his findings, discuss what it means for a prototypical Milwaukie neighborhood and how COVID impacts the study.

## Zoning 201

Vera Koliass explained the development process and how zoning fits the process. She said that, with the updated zoning code, middle housing would be allowed by right, meaning that only a building permit is needed. Currently, there are provisions that duplexes, rowhouses or ADUs in certain zones require a type II or III review process. Those provisions would be eliminated. She noted that since the use will be allowed outright, the development and design standards are increasingly important to get the type of development desired – the desired development should be the easiest thing to do in that zone.

Vera noted there are significant cost implications of development with system development changes in the range of \$10,000 to \$17,000 per unit. Depending on lot, the development may also need street frontage improvements which cost approximately \$310 per linear foot. Utilities infrastructure (water, sewer, stormwater) for the dwellings must also be provided.

CPIC members asked about the ability to subdivide parcels, and whether not merging the zones would result in lost opportunity with certain types of housing that are better suited for larger lots. Cottage clusters were given as an example. Staff noted that the large lots are currently located in different zones all over the city. Not all parcels are appropriate for subdividing easily. Land division requires subdivision plans, construction of right of way and public review through a public hearing process. Currently, planning commission approval is required to subdivide a parcel. The new code language may allow multiple units on one lot and avoid the subdivision process. The group discussed the opportunity to foster/promote home ownership with the type of housing allowed and the ease/ability to subdivide the parcel.

### **Next Steps**

The staff and consultant team provide a summary of next steps:

- Public outreach starts March 22. CPIC members were asked to spread the word and to let Vera Koliias know if they are interested in hosting a meeting-in-a-box.
- There will be discussions to talk about trees, parking and housing with the City Engineer, City Attorney and others.
- The next meeting is scheduled for April 15. The tentative agenda includes tree code, parking study and community survey results.

### **CPIC Open Discussion**

CPIC members noted that they have provided a lot of input, but have not reached consensus on any issues. The Project Team noted that the Committee Charge is not to develop a consensus opinion but rather to provide input and feedback. As a way of formalizing that input, several questions were raised to the CPIC members and responses summarized in a Zoom poll:

Question 1: Zone consolidation of R-10 into R-5 and R-7.

- 75% I support consolidating R-10 into R-5 and R-7
- 0% I do not support consolidating R-10 into R-5 and R-7
- 25% I need more information

CPIC is interested in getting more information of how to preserve large lots from subdividing.

Question 2: Zone consolidation of smaller lots (R-1, R-2, R-1B, R-2.5, R-3 into one zone)

- 91% I support consolidating R-1, R-2, R-1B, R-2.5, R-3 into one zone
- 0% I don't support consolidating R-1, R-2, R-1B, R-2.5, R-3 into one zone
- 9% I need more information

Question 3: Triplexes in one high density zone. This would mean less than one parking space per unit. On smaller than 5,000 sq ft lot, there could only be two parking spaces. This goes above and beyond HB 2001.

- 67% Yes, I support triplexes in one high density zone.
- 17% No, I do not support triplexes in one high density zone
- 17% I need more information

CPIC members discussed the ability of the code to promote community within the City.

The meeting was adjourned at 8:45 pm.