CITY OF TACOMA
SUSTAINABLE TACOMA COMMISSION
HYBRID MEETING

DRAFT AGENDA

THURSDAY, DECEMBER 14TH, 2023
5:00 PM TO 7:00 PM

This meeting will be held both virtually and in-person. In person location is the Tacoma Municipal Building, 747 Market St, room 220A.

The Tacoma Municipal Building is served by Pierce Transit bus routes 1, 2, 11, 16, 45, and 57. Visit www.tripplanner.piercetransit.org to find your route. The Tacoma Municipal Building also has bike racks at the Market Street and St. Helens Ave entrances. Visit www.cityoftacoma.org/mobility for a map of Tacoma bikeways.

Meeting phone line: (253) 215-8782
Meeting hyperlink: https://us02web.zoom.us/j/84328083947?pwd=YXo2N1dURXJhRkxpSHNMMnZhRTlGQT09
Meeting ID: 843-2808-3947
Meeting password: 253253

Microphones will be muted and cameras turned off for all meeting participants, except for the Commissioners and staff presenters. Public comments will be accepted in meeting during the time set aside by the agenda. In addition, the Commission encourages community members to submit written comments prior to the meeting by 4:00 p.m. on December 14th. Please e-mail your comments to lfarmer2@cityoftacoma.org put in the subject line "STC Meeting 12/14/23", and clearly indicate which agenda item(s), if any, you are addressing.

I. CALL TO ORDER & EXTENDED ROLL CALL
II. APPROVE DECEMBER 14TH AGENDA AND NOVEMBER 16TH MINUTES
III. PUBLIC COMMENTS
IV. STAFF UPDATES
V. HOME IN TACOMA PHASE 2- LANDSCAPING STANDARDS PRESENTATION
VI. HOME IN TACOMA PHASE 2- LANDSCAPING STANDARDS SUBCOMMITTEE DISCUSSION
VII. MUNICIPAL BUILDING DECARBONIZATION

PRESENTATION

VIII. PUBLIC COMMENTS

IX. OBJECTIVES FOR NEXT MEETING

X. ADJOURNMENT

City of Tacoma
Sustainable Tacoma Commission
Meeting Minutes

Date: November 16, 2023

Commission Members Present: Matthew Benedict (in-person), Lexi Brewer, Evlondo Cooper (Co-Chair), Sheena Hewett, Tony Ivey, Adam Reichenberger, Laura Svancarek, John Doherty (in-person), Margaret Schwertner (Co-Chair),

Commission Members Excused: Casey Twiggs, Lowell Wyse, Mike Chang

Others Present:
Office of Environmental Policy & Sustainability: LaKecia Farmer, Jim Parvey, Kristin Lynett (in-person), Beth Jarot (in-Person), Carson Brock (in-person), Mike Carey (in-person), Perry Spring (in-person)

Rochelle Gandour-Rood (in-person), Tacoma Public Utilities

Poppy Storm, 2050 Institute

Kelly Marrin, AEG

Elliott Barnett, Planning and Development Services

Call to Order & Roll Call
This meeting was called to order by Commission Co-Chairperson Evlondo Cooper at 5:01 pm, including an acknowledgement of the traditional indigenous lands this Commission conducts its business on. The Chair welcomed Commissioners, staff, and members of the public. Then, Evlondo administered a roll call, where Commissioners acknowledged their attendance.

Unanimous Approval of November 16, 2023 Meeting Agenda

Unanimous Approval of October 19, 2023 Meeting Minutes

Public Comment
No public comments were delivered verbally during this agenda item.

Staff Updates
OEPS Staff gave updates on:

- OEPS Director Position

Jim Parvey explained recruitment for replacement has been put on hold because of organizational changes. There is a possibility that they are moving the office to the city manager's office. Interim directors will hold place until recruitment is finished. There are ongoing conversations with office staff about potential move. Jim then suggested if there were any feedback from STC, they should write a letter if interested. The posting will save first round applications and then the City will repost in the future.

Commissioners expressed that OEPS moving to the City Manager's Office (CMO) is a good move. Some worried about the position being closed in the process. Finally, a commissioner asked if switching to CMO would change the job description. Jim replied that it should stay the same.

- Governor Inslee will be coming to Solid Waste and there will be a press release about landfill funding coming out soon. Governor Inslee will also be at the Center for Urban Waters to speak about Climate Corps.
- Jim Parvey thanked STC in case there was no December meeting as he will be retiring.

Additional updates from STC Commissioners:

- Commissioner Matthew Benedict gave an update from the Environmental Services Commission. The wastewater comprehensive plan is looking at wastewater capacity/pumps and what needs to be done with population growth.
- Kristi and Evlondo gave an update that the Clean Air Agency came to the Tacoma Pierce County Health Department. Air Toxics are going down (there's still diesel) in Tacoma. Judy Olsen from the TPCHD is working with STC and final report comes out to share with the community.
- Commissioner co-chair Evlondo Cooper gave an update and request to create a subcommittee on the South Tacoma Warehouse Project. It is going forward and he requests pushing for deeper assessment with more environmental safeguards in new project. The subcommittee would be about creating procedures: not commenting but working on policy and laws that future projects would be applied to.
    - Jim clarified that actions where City Council has a decision making role, STC can't comment on the project.

Important Dates

- November 28, 2023 Study Session Decarbonization - joint session w/ TPU board
- November 28, Council Meeting – First reading of Tree Protection Ordinance

Building Decarbonization- Presentation

Poppy Storm from 2050 Institute, Kelly Marrin from AEG, and Beth Jarot from OEPS gave an update on community building decarbonization. They spoke about strategies and targets around the Tacoma Decarbonization plan. They updated the commission on Milestone 2030: Tacoma needs to stop installing fossil fuel equipment and they have an opportunity to do so. The strategy goals is not just about reducing greenhouse gasses but includes equity, health, reduced bills, increase resiliency, and grid reliability. Additionally, they detailed in the presentation the impact assessment and decarbonization pathway. Their key findings from sector emissions was to electrify- burnouts on the natural replacement schedule almost works in residential and optimized replacement timings are close to

burnout, but they need to ramp up sales share to peak by 2030. Finally, grid stability and renewable natural gas is not a major game changer with the strategies.

Commissioners asked questions about the City CPRG, presenters responded that there were 100 grants total (two to three per state). Additionally, presenters answered questions around new construction versus existing building 2021 energy code: clearer requirements about heating are getting improved later in the month.

Home in Tacoma Phase 2- Presentation
Elliott Barnett gave a presentation on Home in Tacoma Phase 2 update. Elliott detailed the timeline (see below) and various details of the potential final package that can be found on the Planning Commission website. The sustainability items that might be of particular interest to STC was detailed by Elliott as: promoting standards for E-bikes, landscaping requirements (no tree planting or retention projects), requiring trees in development sites and public areas, more soil volume under the surface, large fines for removing certain trees, tree credits based on small and larger tree, state mandates on affordability, and other items around landscaping standards to be discussed in detail at the next December meeting.

July-Dec 2023

- EIS Consultation
- Develop full package

Jan-March 2024

- Planning commission Public Hearing
- Release Draft EIS
- Planning Commission rec

April-June 2024

- City Council Review
- Release Final EIS
- Council PH
- Council action

Public Comment
No further public comments were delivered verbally during this agenda item.

Tentative Objectives for the Next Meeting (December, 2023)
- Building Decarbonization updates – municipal
- Small Sustainability Grants
- Trees subcommittee

Adjournment
There being no further business, the Commission unanimous approved an adjourned at 7:00pm.

The next meeting of the Sustainable Tacoma Commission will be held hybrid on Thursday December 14th, 2023, at 5:00pm, on zoom and at Tacoma Municipal Building, room 220A.

_____
Evlondo Cooper and Margaret Schwertner, Co-Chairs

_____
LaKecia Farmer and Carson Brock, Staff / Note Takers

Sustainable Tacoma Commission (STC)

12/14/2023 Hybrid Public Meeting

Welcome

Commissioners

Members of the public

Presenters and staff support:

City of Tacoma, Office of Environment Policy and Sustainability:

LaKecia Farmer, Kristi Lynett, Jim Parvey, Carson Brock, Mike Carey, Perry Spring

Elliott Barnett, Senior Planner, Planning and Development Services

Rochelle Gandour-Rood, Tacoma Public Utilities

Office of Environmental Policy and Sustainability

Call to Order

Land Acknowledgment

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We gratefully honor and acknowledge that we rest on the traditional lands of the Puyallup People. The Puyallup people have lived on this land since the beginning of time. They are still here today. They live, work, raise their children, take care of their community, practice their traditional ways and speak the Twulshootseed language – just as their ancestors did.

Office of Environmental Policy and Sustainability

Extended Roll Call

Favorite moment/presentation/letter of STC in 2023

Commission Members

Matthew Benedict
Lexi Brewer
Mike Chang
Evlondo Cooper (Co-Chair)
John Doherty
Sheena Hewett
Tony Ivey
Devynee Le (Welcome!)
Adam Reichenberger
Margaret Schwertner (Co-Chair)
Laura Svancarek
Casey Twiggs
Lowell Wyse

Agenda – 12/14/2023

I. Call to Order & Extended Roll Call
II. Approve December 14TH Agenda and November 16TH Minutes
III. Public Comments
IV. Staff Updates
V. Home in Tacoma Phase 2- Landscaping Standards
   - Presentation

I. Home in Tacoma Phase 2- Landscaping Standards Subcommittee
   - Discussion

I. Municipal Building Decarbonization
   - Presentation

I. Public Comments
II. Objectives for Next Meeting
III. Adjournment

(Motion)

Office of Environmental Policy and Sustainability

11/16/2023 Meeting Minutes Approval

(Motion)

Office of
Environmental Policy
and Sustainability

Public Comments

Office of
Environmental Policy
and Sustainability

Staff Updates

- Small Sustainability Grants
- ROW tree code passed!

Office of
Environmental Policy
and Sustainability

Other Business Items

Home in Tacoma Phase 2- Landscaping Standards

Elliott Barnett, Planning and Development Services

Mike Carey, OEPS

Office of
Environmental Policy
and Sustainability

Other Business Items

Home in Tacoma Phase 2- Landscaping Standards

Landscaping Standards/Trees Subcommittee

Office of
Environmental Policy
and Sustainability

Other Business Items

Municipal Building Decarbonization

Perry Spring,(OEPS)

Office of
Environmental Policy
and Sustainability

Public Comments

Office of
Environmental Policy
and Sustainability

Objectives for Next Meeting (Jan 18)

- **End of Year Survey**

Tentative Meeting items:

- End of Year / Look Ahead reflections

Office of
Environmental Policy
and Sustainability

Adjournment

(Motion)

Office of
Environmental Policy
and Sustainability

Affordable Housing

Home In Tacoma Project

Sustainable Tacoma Commission

December 14, 2023

Revised project schedule

July to Dec 2023

- Develop full package
- EIS Consultation

Jan to March 2024

- ***Planning Commission Public Hearing***
- ***Release Draft EIS***
- Planning Commission recommendation

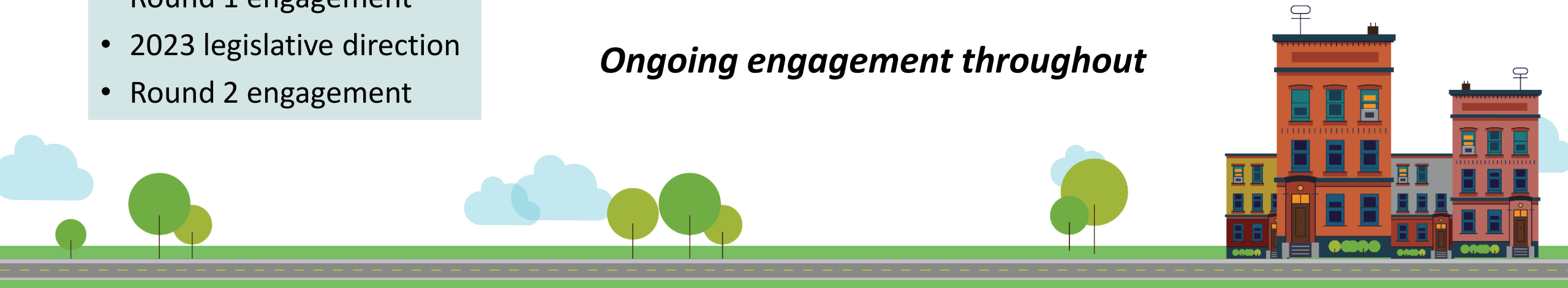
April to June 2024

- City Council review
- Release Final EIS
- Council Public Hearing
- Council action

INPUTS

- Round 1 engagement
- 2023 legislative direction
- Round 2 engagement

Ongoing engagement throughout

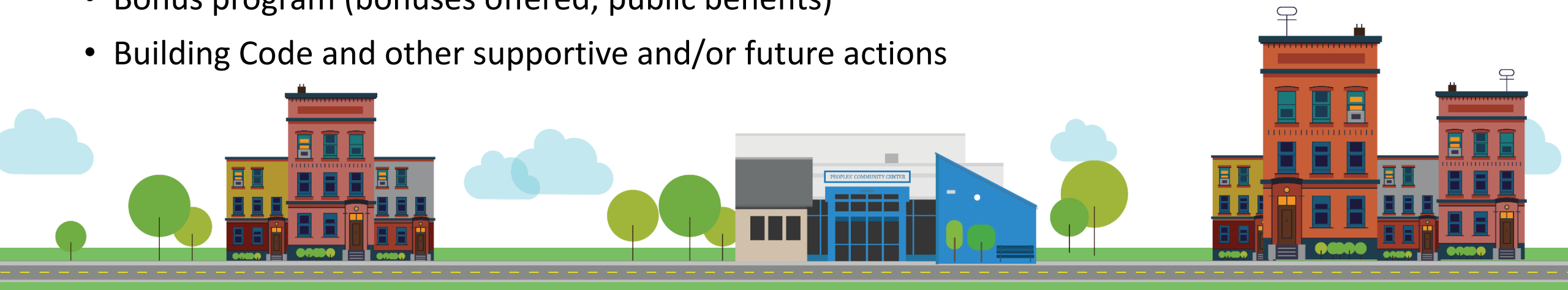


Agenda

Seeking input on the landscaping components of the HIT package

Through public hearing process, seeking written input on all sustainability actions in the HIT package, including…

- Housing linked with complete neighborhoods
- Transportation choices (reducing parking, driveway requirements, bike standards updates)
- Landscaping (tree planting and retention, tree longevity, flexibility)
- Bonus program (bonuses offered, public benefits)
- Building Code and other supportive and/or future actions



INITIAL LANDSCAPING RECOMMENDATIONS

Part of the Home in Tacoma project, these recommendations were developed by Mithun in a collaborative effort with updates to Tacoma's Urban Residential zoning and standards to promote Middle Housing development **and** tree canopy based on public priorities.

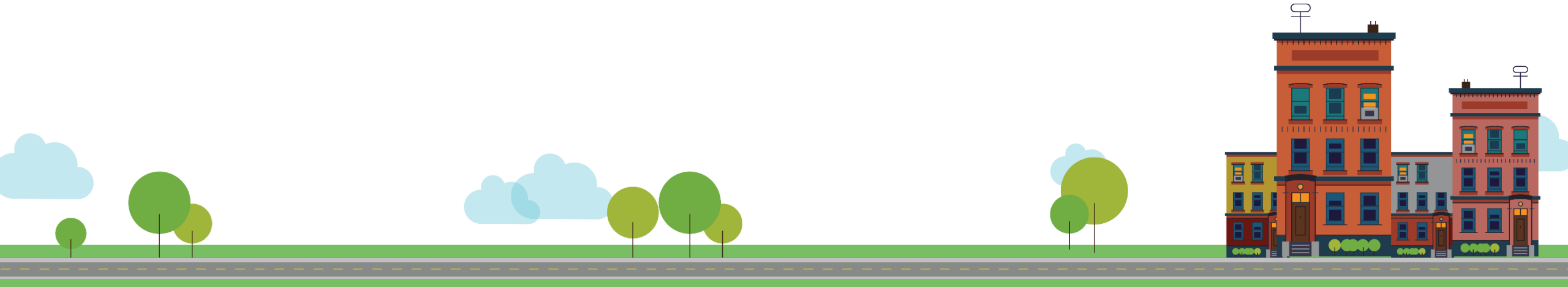
Affordable Housing

Trees + Development

Tacoma's adopted 30% tree canopy goal, as well as public input, has expressed the importance of trees. But addressing the housing crisis in tandem with a changing climate of more summer heat and winter rainfall requires allowing both development **AND** tree growth, rather than preferencing one at the expense of the other. These recommendations aim to support both, while enhancing ease of use and flexibility of Tacoma's code.

There are some tradeoffs, such as staffing and cost implications, and development limitations resulting from retention of existing trees. The flexibility and predictability offered by a Green Factor approach can address some of the tradeoffs more effectively but would need to be explored Citywide, outside of Home in Tacoma.

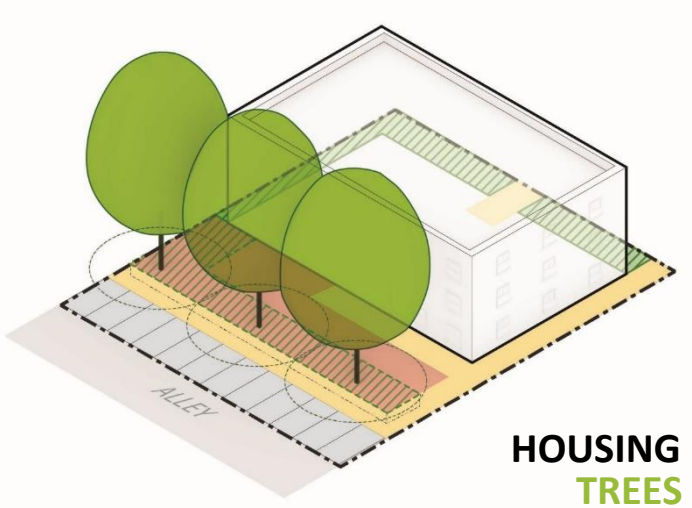
How can we move forward to achieve this balance? Ongoing consultation with the developer industry, general public, Council and decision makers, and public utilities will continue to inform landscaping code recommendations.



Landscaping Code Updates to Promote Housing + Trees

Objectives:

- Balance elements that need space on a lot: housing, trees, planting, amenity space, pedestrian access & parking
- Simplify landscaping code
- Require trees (tree credits) for all developments
- Implement tree preservation requirements on private property
- Match code requirements to best practices / available science to support long term tree health
- Ensure long term maintenance through inspections and bonds (staffing/resourcing implications)
- Where possible, align with current right-of-way tree standards updates



Anticipated Outcomes:

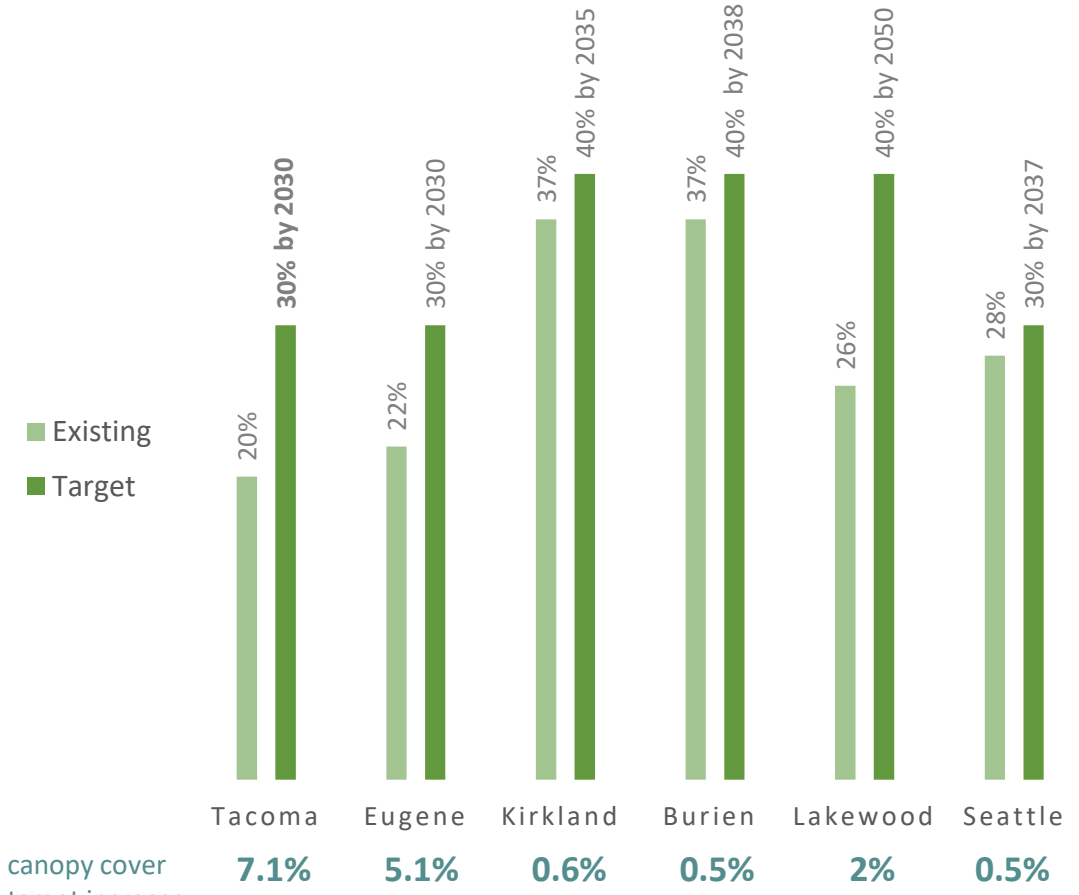
- Significant urban forestry benefits that support Citywide 30% tree canopy goal
- Moderate increase in regulatory cost / staff time
- Minor impact on housing development cost, with potential development limitations on sites with valuable existing trees.

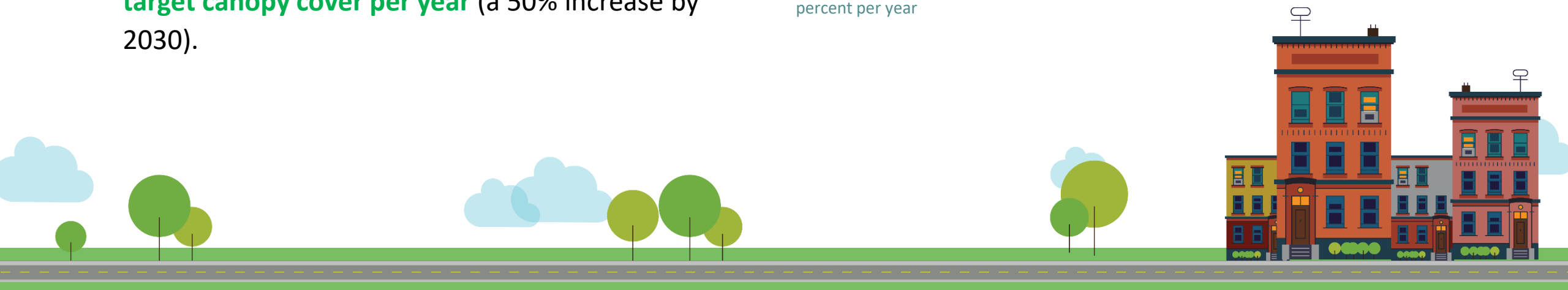
Tree Canopy Targets

In relation to benchmarked cities:

- Eugene, OR (Middle housing)
- Kirkland, WA (Middle housing, 2022 Tree & Landscaping ordinance, Green Factor Amendment)
- Burien, WA (2021 Tree & Landscaping ordinance)
- Lakewood, WA (2022 Tree Preservation ordinance)
- Seattle, WA (2023 Tree ordinance)

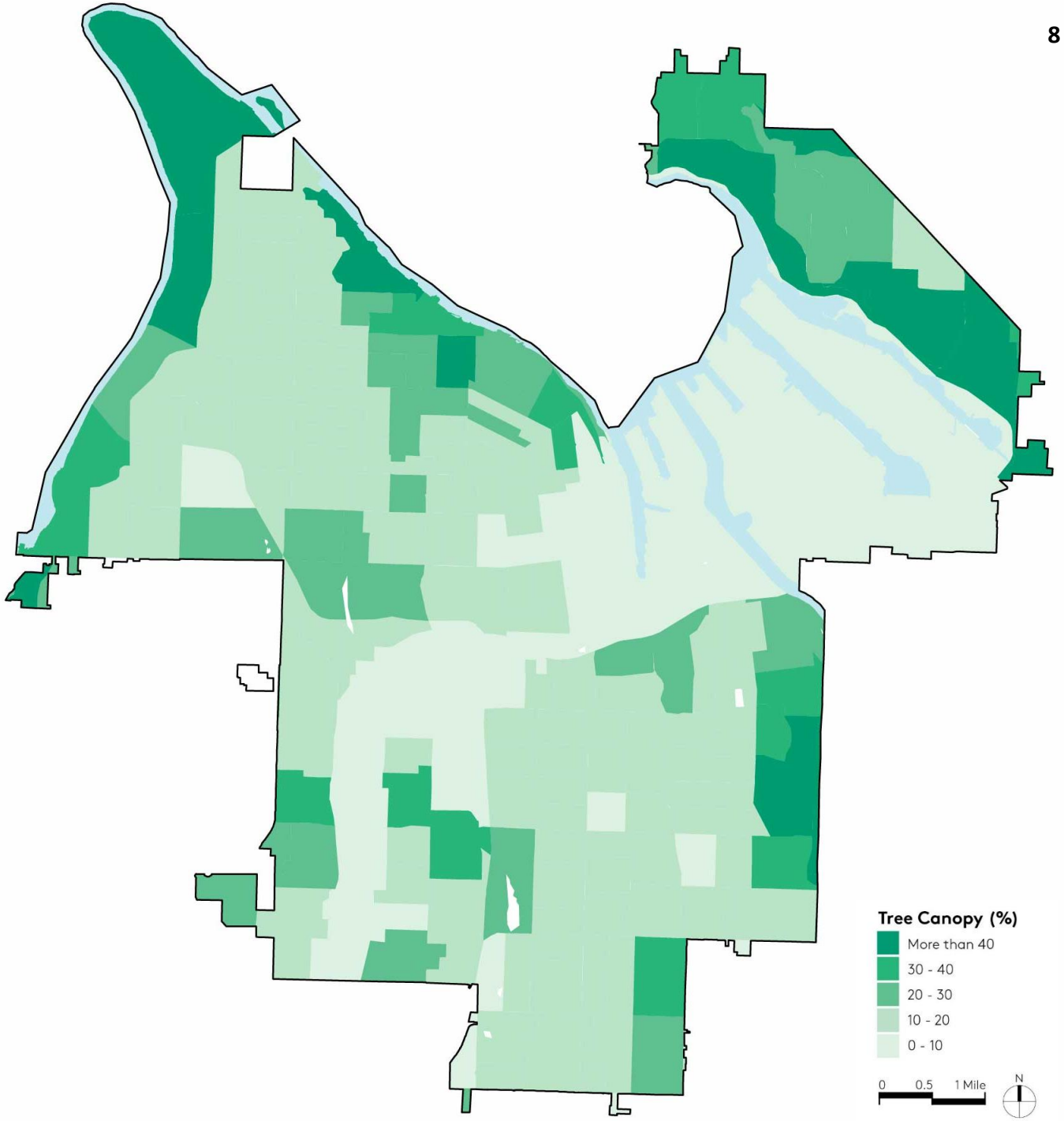
- Tacoma has the **lowest tree canopy cover with 20%** compared to Kirkland and Burien with 37%.
- Tacoma has the **greatest difference in existing vs. target canopy cover per year** (a 50% increase by 2030).





Existing Citywide Tree Canopy

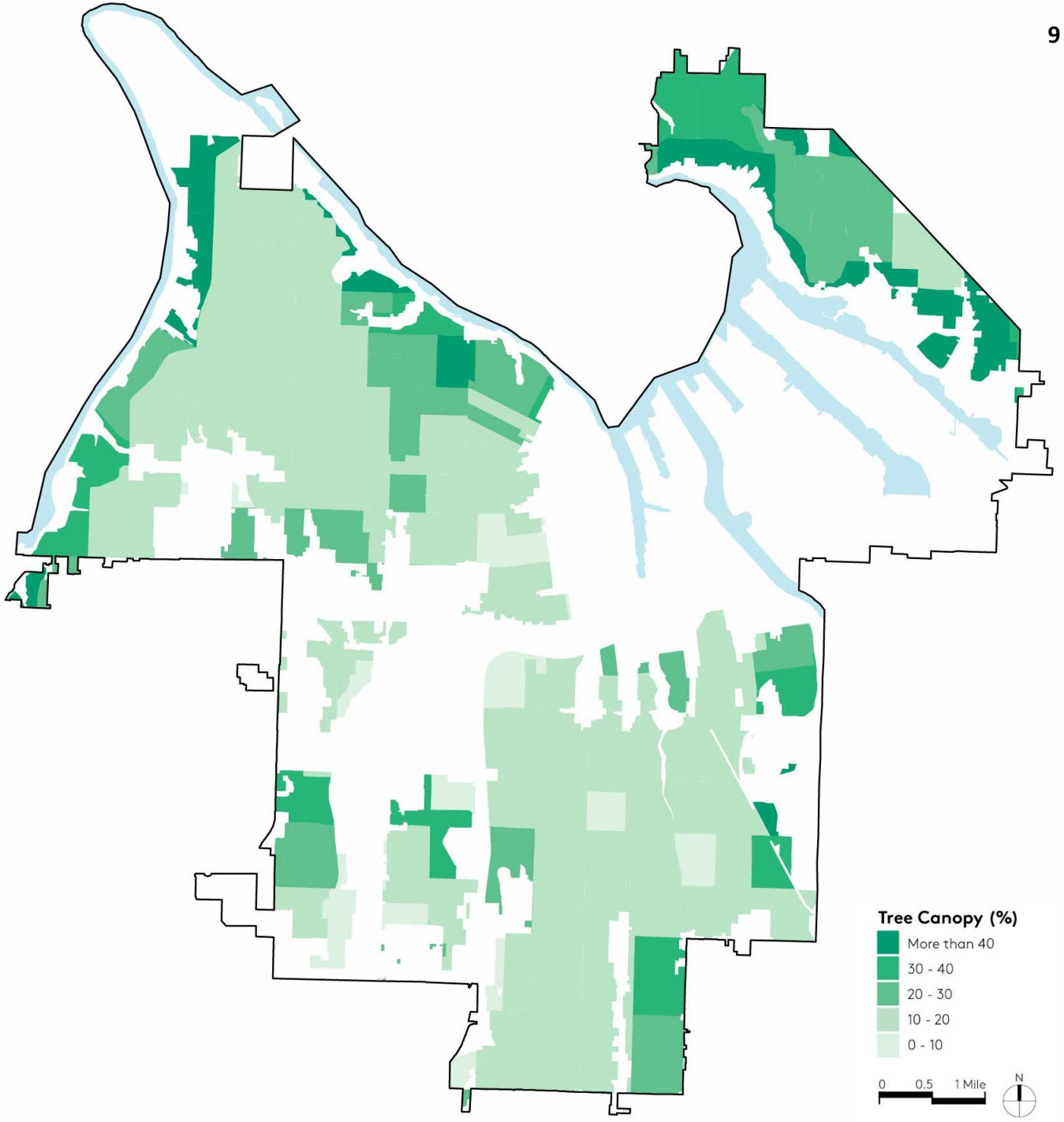
Tacoma's tree canopy is currently **20%** averaged across the city.



Citywide Tree Canopy & Middle Housing

The existing tree canopy in Middle Housing zones is approximately **18%**.

Middle housing zones cover approximately 50% of the city's land area, while public right-of-way covers approximately 20%.

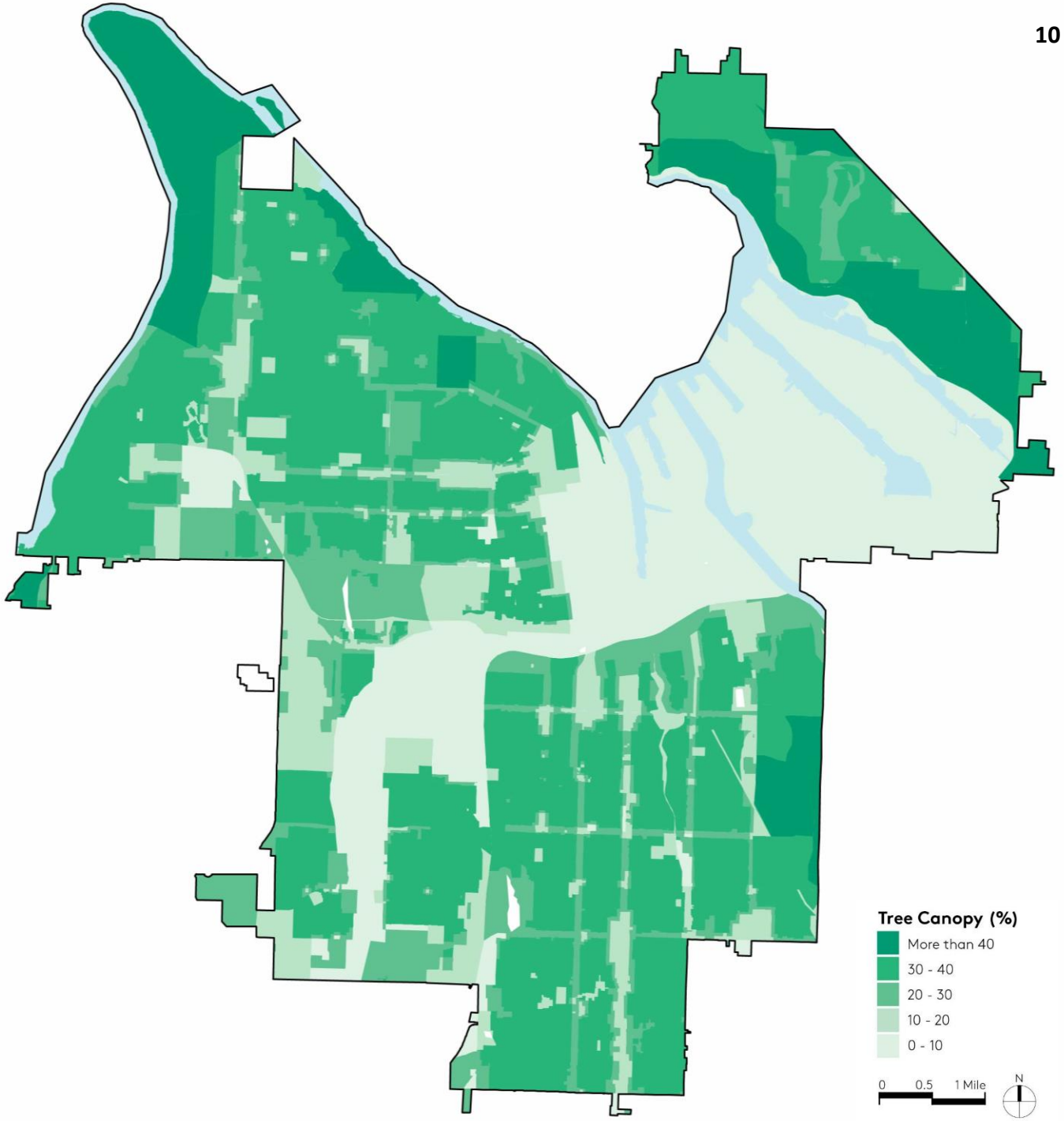


Citywide Tree Canopy & Middle Housing

Right-of-way and Middle Housing are the two largest land areas with the greatest potential for increased tree canopy.

If the average tree canopy across Middle Housing zones and public rights-of-way grew to approximately **32%**,* Tacoma could reach its **30%** tree canopy goal citywide.

* This estimate does not account for annual tree loss from storms, which would suggest an even higher target.



Proposed Revisions to Standards

- **Proposed Revisions to Landscaping Standards (General / All Zones)**
  - Credits for small, medium and large trees
  - Minimum tree planting area
  - Minimum soil volumes
  - Tree spacing
- **Proposed Revisions to District Standards (Urban Residential Zones)**
  - Tree Removal Requirements on private property
  - Tree Retention Credits
  - Fee in lieu
  - Exemptions from landscaping requirements
  - Required trees / Tree credits by zone
  - Street trees
  - Parking lot landscaping requirements
- **Beyond Home in Tacoma: Revisions for Further Study**
  - Green Factor
  - Future Recommendation: Revisions to other zones for consistency

Tacoma Affordable Housing

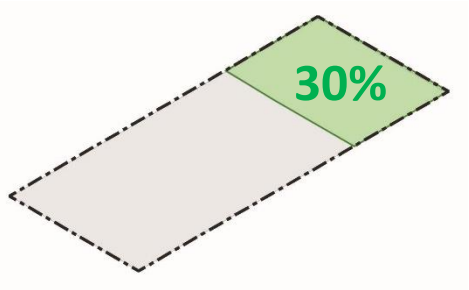
LANDSCAPING STANDARDS (GENERAL/ALL ZONES)

Tacoma Affordable Housing

Tree “Credits” Concept

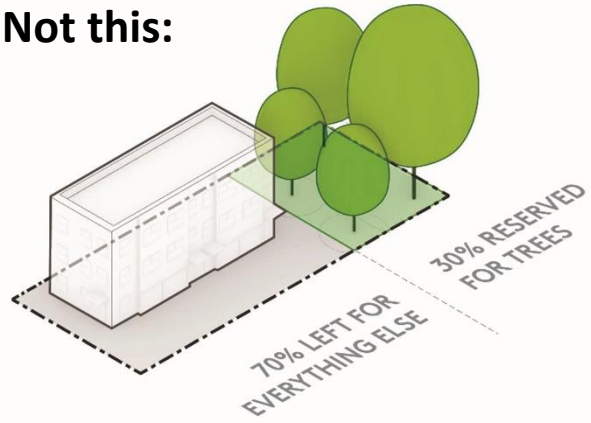
These recommendations propose tree “credits” as a concept to quantify the value of a given tree for the purposes of defining how many trees are required on a given site. This is only a language change from existing standards and is calculated the same as existing requirements for tree canopy coverage by percentage. Removing redundant tree standards and communicating credits as a concept separate from canopy area simplifies requirements and helps convey that trees can overlap with other uses like paths and parking, and are not “taking up” the full area under their canopies.

When 30% of the lot area is used to calculate tree requirements, what does this mean?

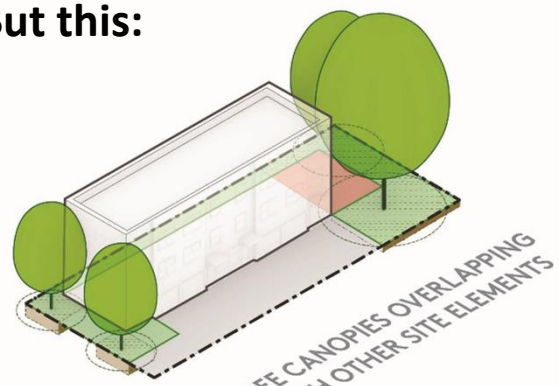


The percentage of lot area is used to determine how many trees or "tree credits" are required on a site.

Not this:



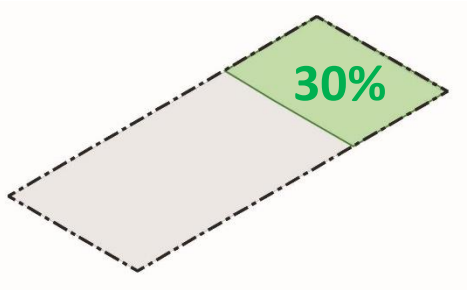
But this:



Credit for Small, Medium & Large Trees

Both existing and new trees provide value, and therefore are worth a certain amount of credit. An existing tree's species and trunk diameter determines how many "credits" are earned for retaining the tree. For new trees, credits are allocated based on whether the mature size of the planted tree species is considered small, medium or large in the Urban Forest Manual.

District standards establish the number of tree credits required for a given site and project based on the lot area (i.e. 25%, 30% or 35% by zone). These "credits" can be met by adding the values earned by retained trees and new trees.



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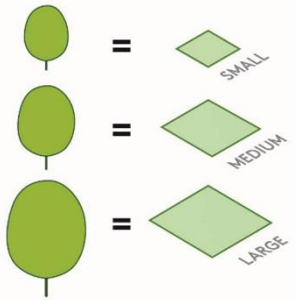
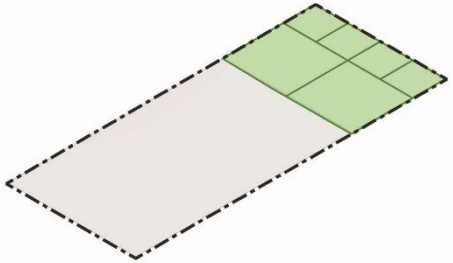


Both existing and new small, medium, and large trees are each worth a certain amount of credit toward this target area.



** See next page for translation from concept to code revision*

Credit for Small, Medium & Large Trees

Citywide / all zones
Existing credits for small, medium and large trees (defined in square feet to suggest connection to canopy) 300 sf for small trees, 500 sf for medium trees, 1,000 sf for large trees
Proposed credits for small, medium and large trees (“sf” removed) 200 credits for small trees, 500 credits for medium trees, 1,000 credits large trees

Additional recommendation: increase the species designated as “large” trees in the Urban Forest Manual

Why?

- **Reducing the credit allocated to small trees can incentivize the planting of medium and large trees, which provide more benefit toward stormwater management and urban heat island reduction.**

Tree Planting Area

Citywide / all zones

Existing minimum tree planting area
Area: Small: 4' x 6' min, Medium: 5' x 8' min, Large: 6' x 10' min.

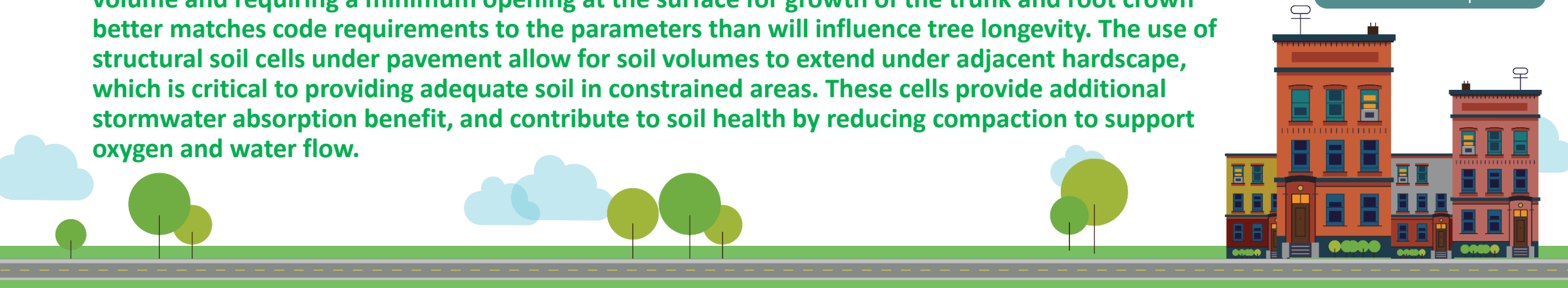
Proposed minimum tree planting area
Minimum 5’ width planting area, with allowances for reduction to 4’ width if required to provide ADA sidewalk or if existing structures or infrastructure restrict planting area. If 5’ width is not achievable, trees must be selected from species approved in Urban Forest Manual for structural integrity in reduced planting.

Note: This sets a minimum 5’ x 5’ opening for trees at the surface, with volume requirements defining the amount of soil required for each tree. Flexibility for a reduction to 4’ width accommodates existing right-of-way designed to 4’planting width dimensions. Urban Forest Manual updates could define which species are allowed in planting areas that are 4’ wide.

Why?

- **Soil “volume” is more critical than “area” for tree health. Focusing requirements on a minimum volume and requiring a minimum opening at the surface for growth of the trunk and root crown better matches code requirements to the parameters than will influence tree longevity. The use of structural soil cells under pavement allow for soil volumes to extend under adjacent hardscape, which is critical to providing adequate soil in constrained areas. These cells provide additional stormwater absorption benefit, and contribute to soil health by reducing compaction to support oxygen and water flow.**

Note: To be coordinated with current right-of-way tree standards updates



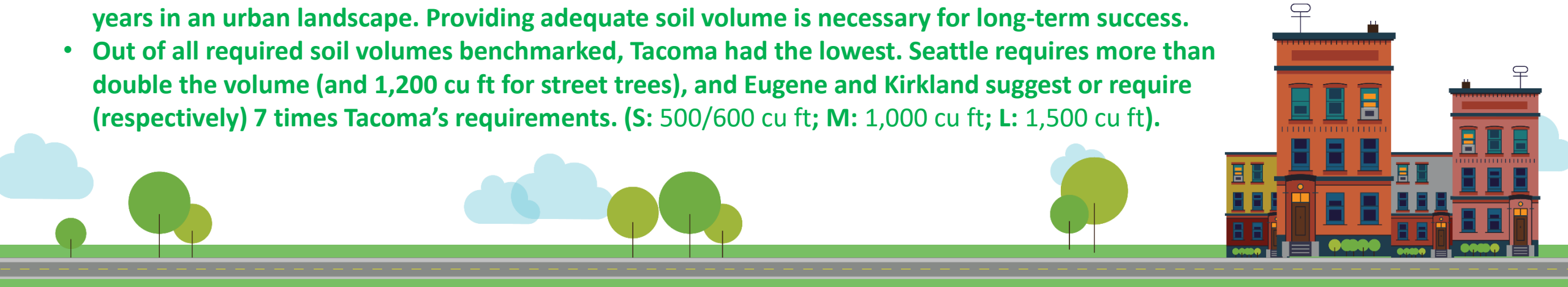
Minimum Soil Volume Per Tree

Citywide / all zones
Existing minimum soil volumes Soil volume: Small: 72 cu ft, Medium: 120 cu ft, Large: 180 cu ft
Proposed minimum soil volumes Soil volume: Small: 500 cu ft, Medium: 1,000 cu ft, Large: 1,500 cu ft Soil volume can be shared by multiple trees, provided each individual S / M / L tree has no less than 500 / 800 / 1200 cubic ft soil volume, respectively.

Note: Suspended Pavement Systems (i.e. "Silva cells" count toward soil volumes

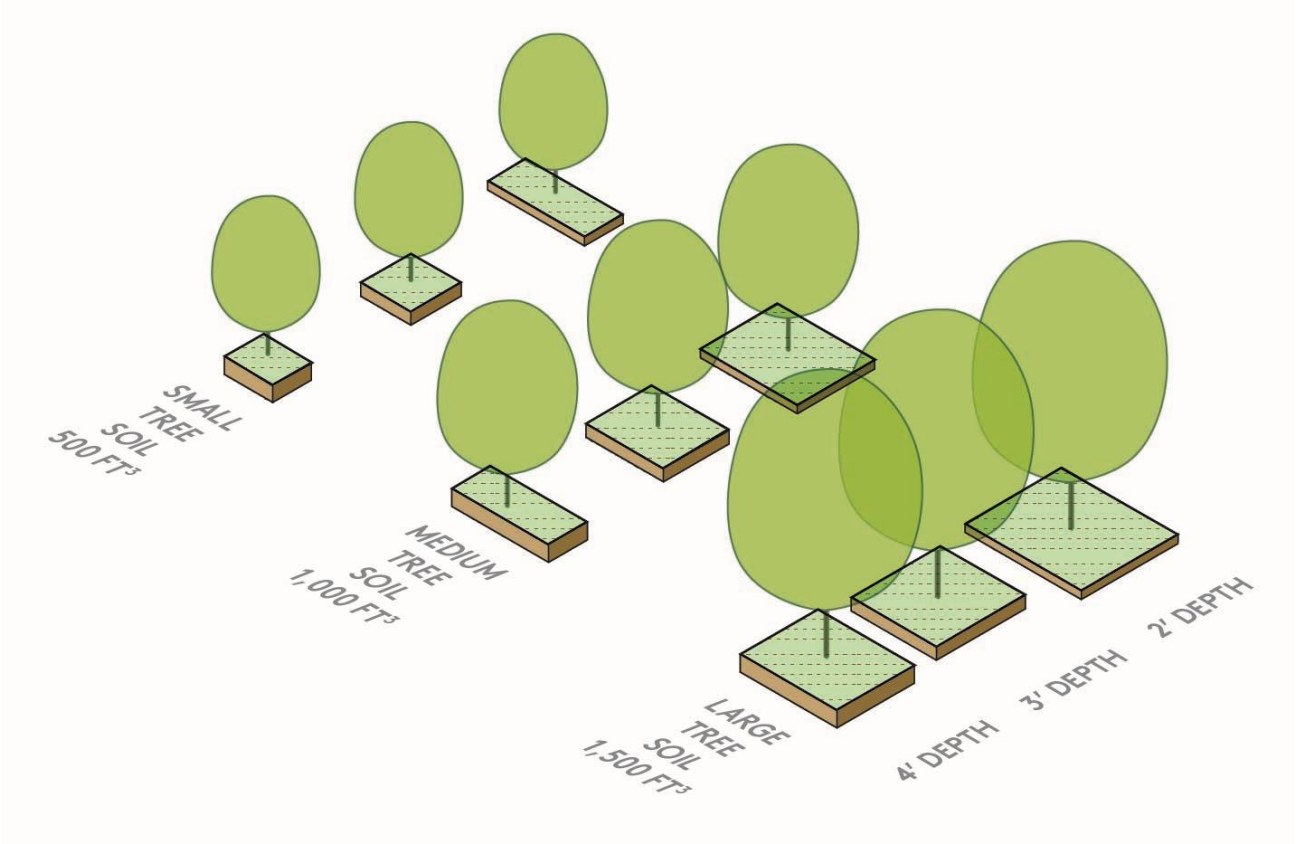
Why?

- **Trees do not provide measurable benefits until 8 to 12 years of age, yet the average tree lifespan is 7 years in an urban landscape. Providing adequate soil volume is necessary for long-term success.**
- **Out of all required soil volumes benchmarked, Tacoma had the lowest. Seattle requires more than double the volume (and 1,200 cu ft for street trees), and Eugene and Kirkland suggest or require (respectively) 7 times Tacoma's requirements. (S:** 500/600 cu ft**; M:** 1,000 cu ft**; L:** 1,500 cu ft**).**

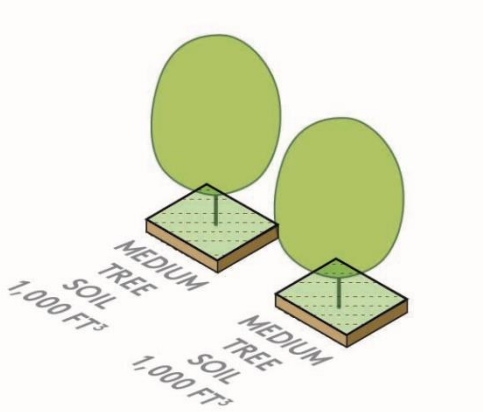


Explaining Soil Volume Standards

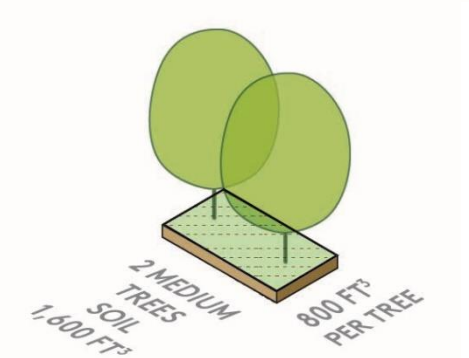
Soil volumes can be met with many different geometries:



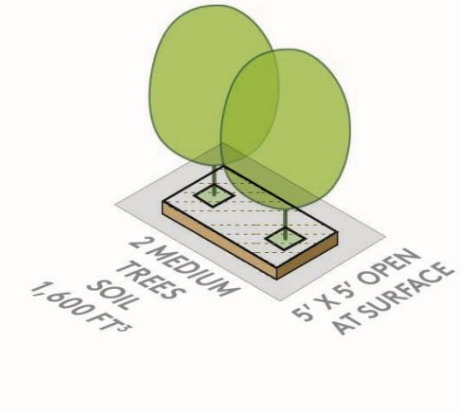
Soil volumes might occur in separate planting areas for different trees:



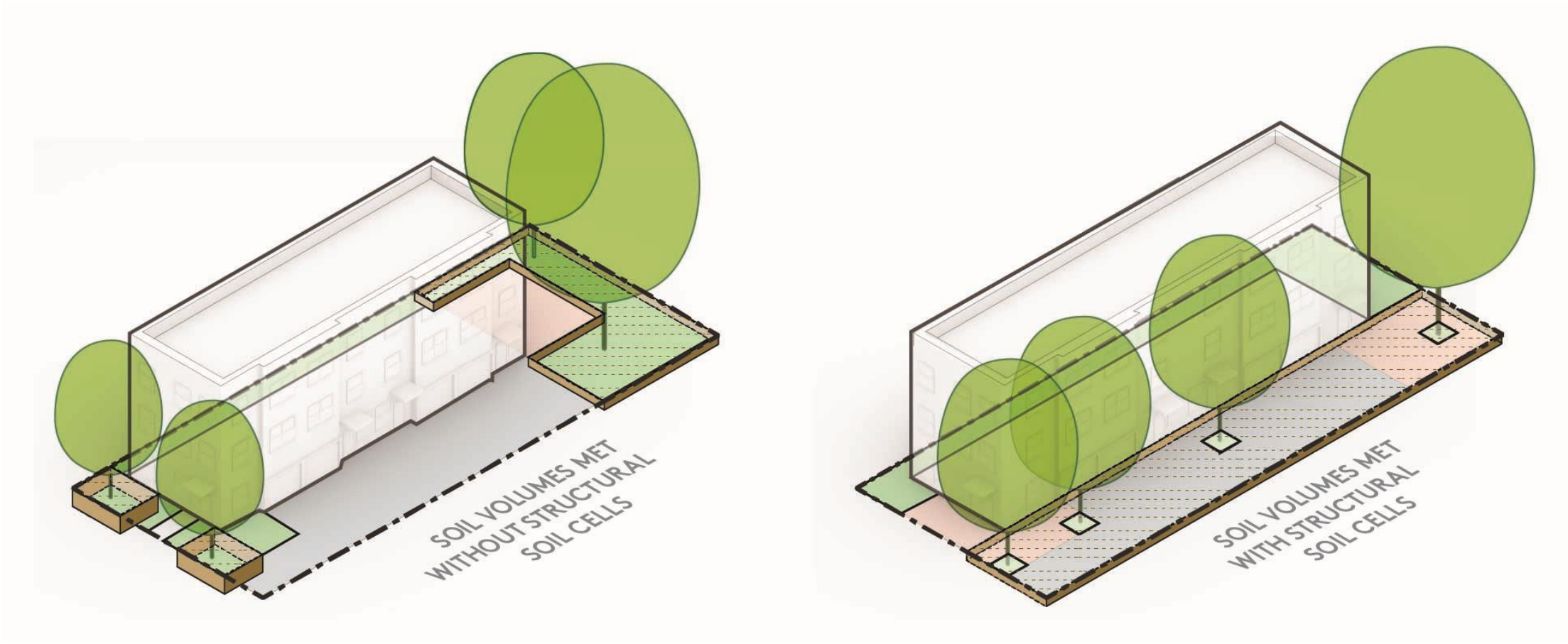
But shared soil volumes allow a lower volume to be used per tree:



And with soil cells, paving can extend over soil to allow for overlapping uses:



Explaining Soil Volume Standards



On many lots, these soil volume requirements can be attained with no use of suspended pavement systems (soil cells).

On constrained sites, or where additional paving is desired, soil cells can provide required soil volume underground, while openings at the surface may be reduced as small as 5’ x 5’ as shown above.

Minimum Tree Clearances

Citywide / all zones
Existing tree spacing Minimum trunk-to-trunk distance: Small: 10' min, Medium: 25' min, Large: 40' min.
Proposed tree spacing Minimum trunk-to-trunk distance: Small: 10' min, Medium: 16' min, Large: 22' min. Minimum trunk-to-building distance: Small: 7' min, Medium: 8' min, Large: 12' min.

Why?

- **Reducing the minimum spacing between medium and large trees can incentivize their planting over small trees on constrained sites.**
- **Reducing minimum spacing enables trees to be planted on constrained urban sites, frequently where their benefits are most needed**
- **Reducing minimum spacing also acknowledges that not all trees live to old age, and prioritizes making it possible to plant the trees in the first place**

Small, Medium & Large Trees
Overview of Proposed Standards

Potential to study:
Require 1,200 cubic feet of soil for large trees (1,000 cu ft if shared)

Offer additional 200 credits for "large+" trees (trees plus soil) that provide 1,500 cubic feet of soil

Proposed Standards \ Tree Size	Small tree	Medium tree	Large tree
Tree Credits	200 credits	500 credits	1,000 credits
Minimum Planting Area*	5' x 5'	5' x 5'	5' x 5'
Soil Volume	500 ft^3	1,000 ft^3 (or 800 ft^3 if shared**)	1,500 ft^3 (or 1,200 ft^3 if shared**)
Minimum Trunk-to-Trunk Tree Spacing	10 feet	16 feet	22 feet
Minimum Trunk-to-Building Clearance	7 feet	8 feet	12 feet

** This is the minimum opening for soil at the surface, provided structural soil cells are used to provide adequate volume underground. The minimum width can be reduced from 5' to 4' if ADA sidewalk (4' min. width) is otherwise infeasible.*

*** Soil volume can be shared by multiple trees, provided each individual Small / Medium / Large tree has no less than 500 / 800 / 1,200 cubic ft soil volume, respectively.*

DISTRICT STANDARDS: URBAN RESIDENTIAL ZONES

Affordable Housing

Tree Removal Requirements

Urban Residential (UR-1) (Lowscale)	**Urban Residential (UR-2)** (Lowscale)	**Urban Residential (UR-3)** (Midscale)
Existing permit requirements for removal Permit only required for critical areas and right-of-way tree removal		
Proposed permit requirements for removal Require a permit for removal of all trees greater than 6” DBH (diameter at breast height) both associated with and not associated with development on private property Consider restriction on construction permit review where trees have been illegally removed On site replacement required, or fee in lieu		

Why?

- **Trees do not provide measurable benefits until 8 to 12 years of age, yet the average tree lifespan is 7 years in an urban landscape. This suggests the need to regulate removal of existing trees and encourage retention through incentives to meet citywide tree canopy goals.**

Potential to model after Seattle Code:

- Tier 1 trees can only be removed in emergency / if hazardous
- Tier 2 can only be removed if limiting development potential (max lot coverage in Seattle)
- Tier 3 & 4 can be removed with development permit

Tier 1: Heritage Trees
Tier 2: 24” DBH or greater, tree groves, species per Director’s rule
Tier 3: 12” < 24” DBH minus Tier 2 trees per Director’s rule
Tier 4: 6” < 12” DBH

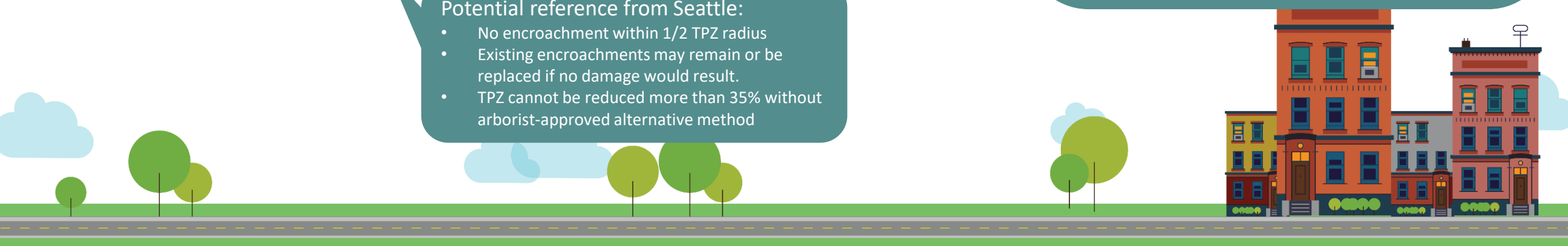
Tree Retention Credits

Urban Residential (UR-1) (Lowscale)	**Urban Residential (UR-2)** (Lowscale)	**Urban Residential (UR-3)** (Midscale)
Existing Tree Retention Requirements & Credits Retained trees provide credit toward landscaping requirements.		
Proposed Tree Retention Requirements & Credits Retained trees provide credit toward landscaping requirements (no change to credit allocation to the right) Tree requirements clearly allow both retained and new trees to count toward required “tree credits” based on lot area. Flexibility offered where tree retention would limit by-right development. Defined maximum encroachment within tree protection zone for retained tree.		

Determining Tree Credits for Existing Trees:
(Tacoma’s existing code)
One required tree per retained tree of equal size
2 required trees per retained tree 8"-20" DBH
3 required trees per retained tree 20"-32" DBH
4 required trees per retained tree >32" DBH
Retained trees count as small, medium or large according to their species
Evergreen trees planted above minimum evergreen requirement gives a credit of 1.1 trees.
Parking lot flexibility given when over 2/3 trees are evergreen.

Potential reference from Seattle:

- No encroachment within 1/2 TPZ radius
- Existing encroachments may remain or be replaced if no damage would result.
- TPZ cannot be reduced more than 35% without arborist-approved alternative method



Fee in Lieu of Tree Replacement

Urban Residential (UR-1) (Lowscale)	**Urban Residential (UR-2)** (Lowscale)	**Urban Residential (UR-3)** (Midscale)
Existing fee in lieu Price per tree: $750.00		
Proposed fee in lieu Consider fee in lieu proportional to tree size (see next page for fee precedents). Policy decision needed for applicability and enforcement. Recommendation: • Trees over 24” DBH cannot be removed. • Trees 12” ≤ 24” DBH can only be removed if retention would limit by-right development. Fee in lieu allowed if onsite replacement is not feasible. • Trees 6” ≤ 12” DBH can be removed if corresponding tree credits are replaced onsite. Fee in lieu allowed if onsite replacement is not feasible. • Less than 6” DBH not regulated		

Why?

- **Fee in lieu provides resources for new tree planting when on-site replacement is not possible and deters unnecessary removal of existing trees. Because trees of larger diameter provide greater stormwater, cooling and shading benefits, more resources are required to make up for their loss. The next page includes two precedents for determining fees.**

Fee in Lieu of Tree Replacement

Preservation, Fee in Lieu (Private Trees)			
Trees ≥12 and <20 inches diameter	$	1,800.00	per tree
Trees ≥20 inches diameter	$	450.00	per inch
Planting and Establishment, Fee in Lieu	$	675.00	per on-site tree
Planting and Establishment, Fee in Lieu	$	450.00	per inch
NON-DEVELOPMENT			
Removal Application (1-3 trees)	$	100.00	
≥4 trees, Additional Fee	$	25.00	per tree
Replanting Waiver Application	$	100.00	
Root Inspection	$	178.00	
Pruning Permit (no inspection required)		no charge	
Pruning Application (Inspection Required)	$	50.00	
Planting Application		no charge	
Chemical Treatment Application	$	150.00	
Appeal Application	$	200.00	
Tree Attachment Applic:Tree Attachment Application	$	300.00	
Ornamental Lighting Application (1-10 trees)	$	35.00	
11-50 trees, Additional Fee	$	45.00	
51-100 trees, Additional Fee	$	75.00	
101-200 trees, Additional Fee	$	100.00	
201-500 trees, Additional Fee	$	175.00	
>500 trees, Additional Fee	$	250.00	
Planting and Establishment, Fee in Lieu	$	450.00	per inch

Portland Tree Fees are broken down in a detailed table, distinguishing between "Development" and "Non-development"

"The fee per tree is the entire cost of establishing a new tree in accordance with standards described by the City Forester. The cost includes materials and labor necessary to plant the tree, and to maintain it for 5 years. The fee will be reviewed annually and, if necessary, adjusted to reflect current costs."

Payment categories	Required mitigation	Payment In-Lieu*
Significant trees 12" and larger (that are not Exceptional)	Cost of (2) two-inch diameter replacement trees	$436
Exceptional trees as defined by the Exceptional Tree Director's Rule (x -2022)	Cost per square inch** of trunk for each tree removed	$17.87/square inch

* Additional City costs may be covered by the payment in addition to what is shown in the Table such as to cover establishment of planted trees for a period, likely three to five years.

**Area in square inches of tree removed is calculated as follows:

- Measure diameter of tree at breast height (DBH) as defined in SMC 25.11 in inches and divide by 2 to get the radius.
- Square the radius and multiply by PI (r^2 x 3.14) to get the area in square inches of the removed tree measured at DBH.

Seattle fee in lieu is determined by Guide for Plant Appraisal, with additional fees for Significant and Exceptional trees to cover establishment of planted trees for a period (3-5 years):

Nursery purchase price* / square inches of the nursery tree** = unit cost to replace tree
Square inches of tree removed*** X unit cost to replace the tree = payment in lieu amount

*Nursery purchase price = the average price of common trees found on sites in Seattle per survey from area nurseries.
**Square inches of the nursery tree is the average size of replacement tree per survey from area nurseries.
***Square inches of tree removed provided by permit applicant.

SDCI shall periodically conduct update to the inputs for the formula above including surveys of regional tree nursery prices to provide the resulting payment to be provided in subsequent rule(s).

Exemptions from Landscaping Requirements

Urban Residential (UR-1) (Lowscale)	**Urban Residential (UR-2)** (Lowscale)	**Urban Residential (UR-3)** (Midscale)
Existing landscaping requirement exemptions Single-family, duplex and triplex exempt from landscaping requirements, except street trees		
Proposed: No exemption from landscaping standards for single, two and three family and townhouse developments		

Why?

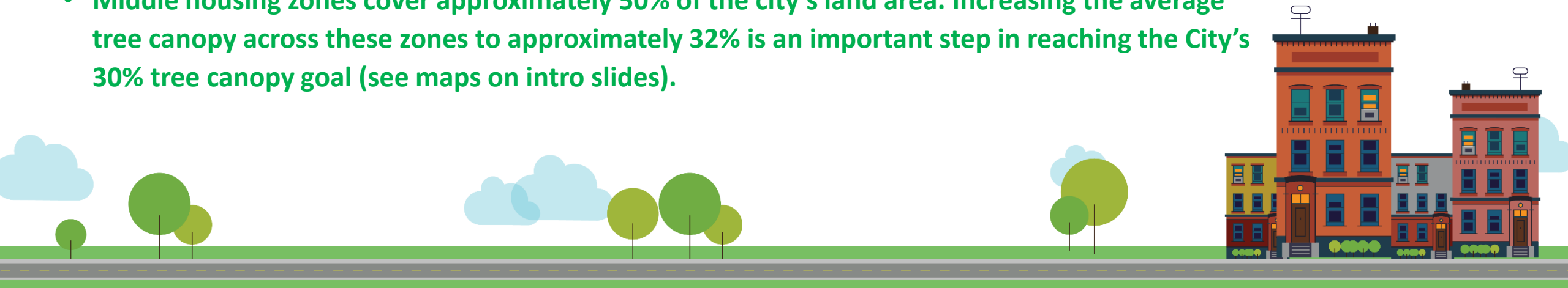
- **Middle housing zones cover approximately 50% of the city's land area. Meeting citywide tree canopy goals requires that landscaping requirements extend to these housing types.**

Required Trees / Tree Credits by Zone

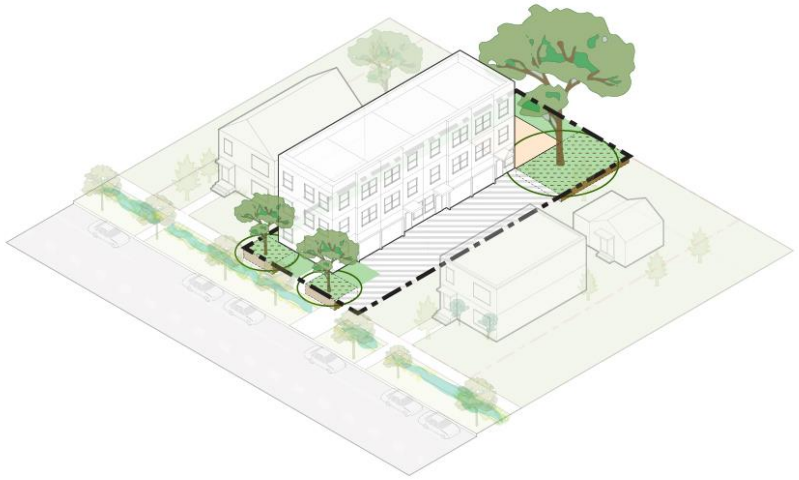
Urban Residential (UR-1) (Lowscale)	**Urban Residential (UR-2)** (Lowscale)	**Urban Residential (UR-3)** (Midscale)
Existing Required Trees (Canopy Coverage) R-1, R-2, R-2 SRD, HMR-SRD: not required R-3, R-4-L: 30% lot area R-4: 20% lot area		
Proposed Required Tree Credits per 35% lot area	30% lot area	25% lot area

Why?

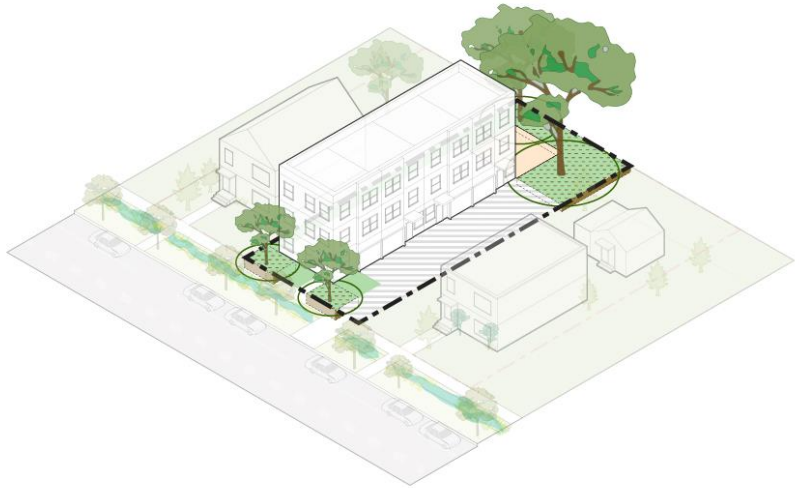
- **Middle housing zones cover approximately 50% of the city's land area. Increasing the average tree canopy across these zones to approximately 32% is an important step in reaching the City's 30% tree canopy goal (see maps on intro slides).**



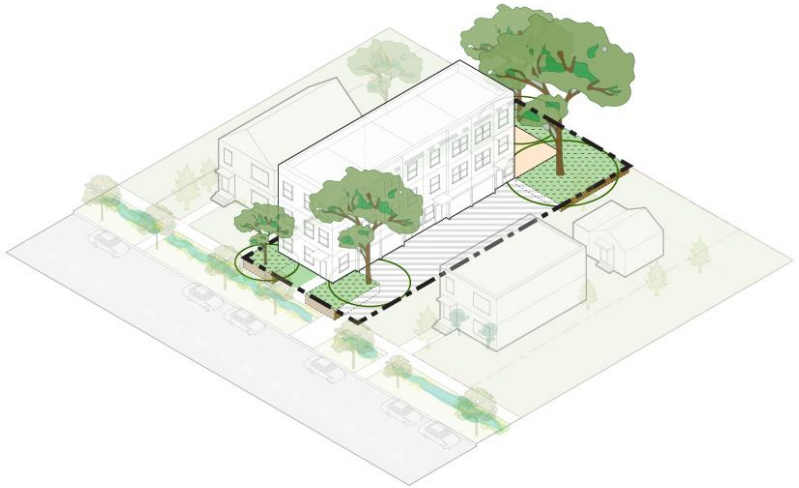
Tree Credits – Visual Comparison



Zone: UR-1, 2, 3
Units: 4
FAR: 1
Height: 35’
Parking: 1 stall/unit
Amenity Space: 492 SF/unit
Tree Credits: Equivalent to
25% lot area



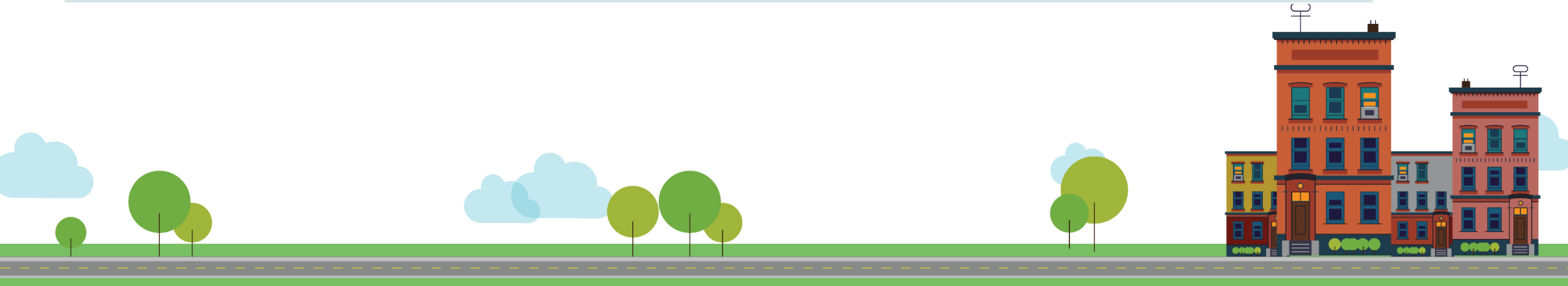
Zone: UR-1, 2, 3
Units: 4
FAR: 1
Height: 35’
Parking: 1 stall/unit
Amenity Space: 492 SF/unit
Tree Credits: Equivalent to
30% lot area



Zone: UR-1, 2, 3
Units: 4
FAR: 1
Height: 35’
Parking: 1 stall/unit
Amenity Space: 492 SF/unit
Tree Credits: Equivalent to
35% lot area

Street Trees

Urban Residential (UR-1) (Lowscale)	**Urban Residential (UR-2)** (Lowscale)	**Urban Residential (UR-3)** (Midscale)
Existing Street Trees 4 small, 3 medium, or 2 large trees per 100’ of street frontage. Exemptions: • Where not feasible to provide in right-of-way, trees within 10' of property line can count toward requirement • Single Family		
Proposed Street Trees • Existing requirements maintained, with exemption for Single Family removed • To be coordinated with current right-of-way tree standards updates		

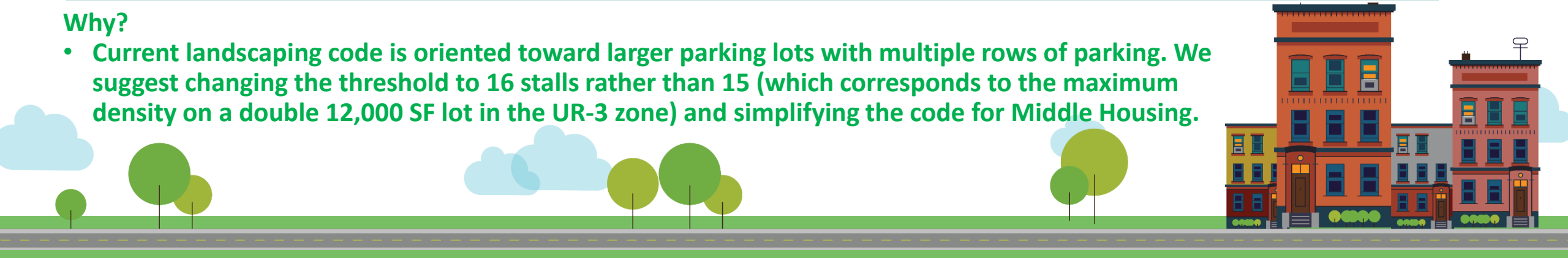


Parking Lot Landscaping

Urban Residential (UR-1) (Lowscale)	**Urban Residential (UR-2)** (Lowscale)	**Urban Residential (UR-3)** (Midscale)
Existing Parking Area Tree Minimum - Overall One Small Tree per 700 square feet; one Medium Tree per 1,000 square feet; or, one Large Tree per 1,400 square feet of parking lot area. (a) Parking Lot Perimeter Landscaping is not required in M-2 or PMI Districts (b) Parking lots of 15 stalls or less are not required to meet Interior Planting requirements. (c) Parking lots of 15 stalls or less, located behind buildings and accessed by alleys, are exempt from the Site Perimeter requirement.		**Existing Parking Lot – Interior Planting Requirements.** A mixture of trees, shrubs and groundcover meeting the following requirements: (a) At least one Small Tree per 200 sf, one Medium Tree per 300 sf; or one Large Tree per 400 sf of landscaped area. (b) Trees planted shall be generally evenly distributed over the site. Shrubs and groundcover plants as required above. (c) Trees placed to create a canopy in desired locations without obstructing necessary view corridors.
Proposed: Parking lot landscaping requirements focus on distribution. No parking-specific tree calculation; all trees count toward required tree credits per lot area. Parking Lot Perimeter Landscaping is not required in UR-1, UR-2, UR-3 Districts Parking Landscape Requirements for 16 stalls or less: (a) No stall shall be more than 50 feet from a tree trunk. (b) Long rows of parking shall be broken by islands or peninsulas with trees, such that there are no more than eight parking stalls in a row without a tree. Where this cannot be accommodated within the interior landscape, trees may be located in the perimeter landscape within 10' of the parking area. (c) Parking lot trees may be counted toward overall District Standard for tree credits based on lot area		

Why?

- **Current landscaping code is oriented toward larger parking lots with multiple rows of parking. We suggest changing the threshold to 16 stalls rather than 15 (which corresponds to the maximum density on a double 12,000 SF lot in the UR-3 zone) and simplifying the code for Middle Housing.**



Inspections / Bonding

Some cities have implemented systems for post-planting follow up / bonding requirements. For more information, City staff in the following cities could provide insight into workload implications:

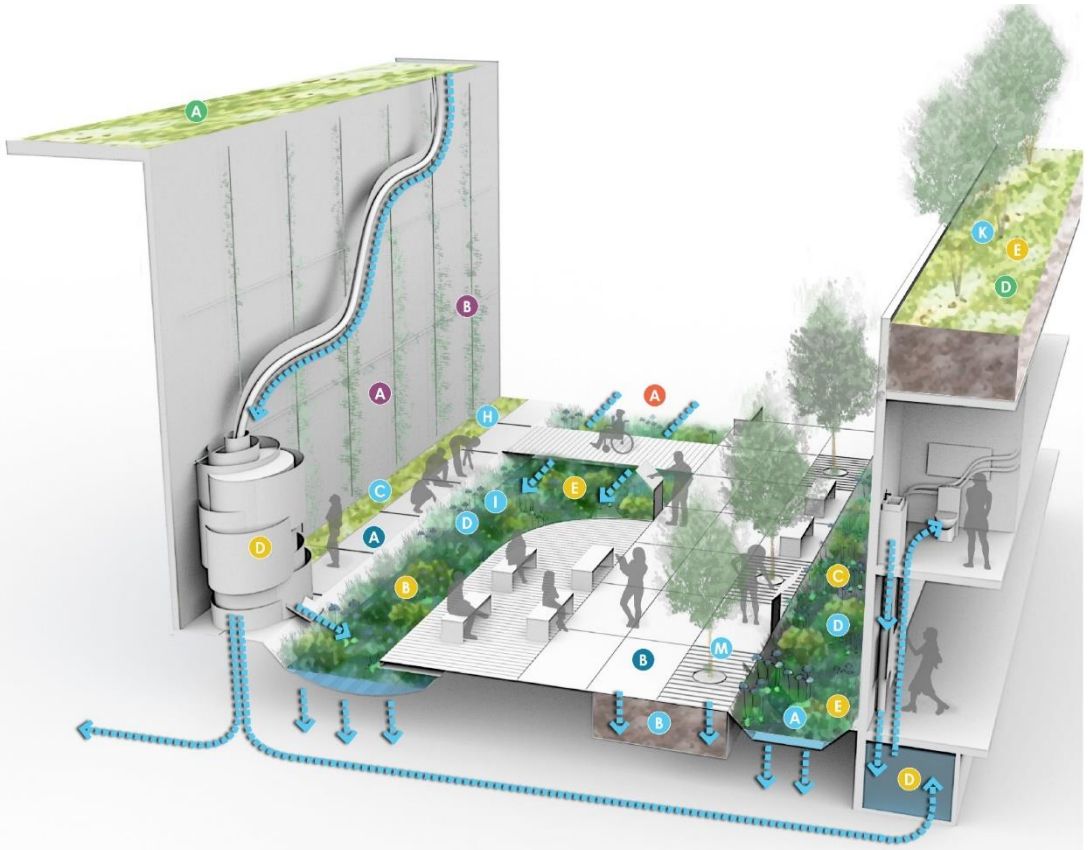
- Security deposit / letters of credit required for all replacement trees to ensure survival (Victoria, B.C.)
- Bonds for proper maintenance (Burien, Lakewood)
- Maintenance Periods:
  - 5 years / life of “development” (Kirkland)
  - Life of “project” (Burien)
  - Life of “project” (Seattle)
  - 3 years / life of “project” (Tacoma)

BEYOND HOME IN TACOMA
REVISIONS FOR FURTHER STUDY

Affordable Housing

For Further Study: Green Factor

Green Factor is a tool that provides flexibility to support increased housing and equivalent benefits of tree function such as green roofs, vegetation layers, soils and pervious surfaces. Taken together, the landscaping benefits can improve quality of life, as illustrated below.



Required inputs from the developer are clearly identified

Minimum score can be defined by zone

Revised 12/28/10

Green Factor Score Sheet SEATTLE×green factor

Project title: 1145 NW MARKET ST

		enter sq ft of parcel			
	Parcel size *(enter this value first)* *	19,993		SCORE	0.402
	Landscape Elements**	**Totals from GF worksheet**		**Factor**	**Total**
A	**Landscaped areas (select one of the following for each area)**				
1	Landscaped areas with a soil depth of less than 24"	enter sq ft 1325		0.1	133
2	Landscaped areas with a soil depth of 24" or greater	enter sq ft 2772		0.6	1,663.2
3	Bioretention facilities	enter sq ft 0		1.0	-
B	**Plantings (credit for plants in landscaped areas from Section A)**				
1	Mulch, ground covers, or other plants less than 2' tall at maturity	enter sq ft 0		0.1	-
2	Shrubs or perennials 2'+ at maturity - calculated at 12 sq ft per plant (typically planted no closer than 18" on center)	enter number of plants 509	6108	0.3	1,832
3	Tree canopy for "small trees" or equivalent (canopy spread 8' to 15') - calculated at 75 sq ft per tree	enter number of plants 3	225	0.3	68
4	Tree canopy for "small/medium trees" or equivalent (canopy spread 16' to 20') - calculated at 150 sq ft per tree	enter number of plants 0	0	0.3	-
5	Tree canopy for "medium/large trees" or equivalent (canopy spread of 21' to 25') - calculated at 250 sq ft per tree	enter number of plants 3	750	0.4	300.0
6	Tree canopy for "large trees" or equivalent (canopy spread of 26' to 30') - calculated at 350 sq ft per tree	enter number of plants 1	350	0.4	140.0
7	Tree canopy for preservation of large existing trees with trunks 6"+ in diameter - calculated at 20 sq ft per inch diameter	enter inches DBH 58	1160	0.8	928.0
C	**Green roofs**				
1	Over at least 2" and less than 4" of growth medium	enter sq ft 0		0.4	-
2	Over at least 4" of growth medium	enter sq ft 3840		0.7	2,688.0
D	**Vegetated walls**	enter sq ft 0		0.7	-
E	**Approved water features**	enter sq ft 0		0.7	-
F	**Permeable paving**				
1	Permeable paving over at least 6" and less than 24" of soil or gravel	enter sq ft 0		0.2	-
2	Permeable paving over at least 24" of soil or gravel	enter sq ft 0		0.5	-
G	**Structural soil systems**	enter sq ft 0		0.2	-

A greater "factor" incentivizes certain elements by offering more credit

For Further Study:
Green Factor & Alignment with Other Zones

Citywide / all zones

Implementing Green Factor is a large project that cannot be accomplished in Home in Tacoma, but should be considered for implementation citywide

Existing
No Green Factor requirement

Proposed:
Green Factor system
Extension of the Urban Residential approach to other zones for consistency

Why?

- **Development Flexibility:** Green Factor allocates credit to trees and other landscape elements that provide similar benefits, so the green strategies chosen can closely match the opportunities of each site and project, while providing the cooling, shading, and stormwater benefits of trees.
- **Ease of Use:** Requirements are combined in a single worksheet with a clearly defined minimum score
- **Incentivizing Large Trees:** The weighting of each element allows cities to incentivize certain elements over others.
- **Staffing Capacity:** Time needed for staffing enforcement is limited because landscape architects certify that installation is aligned with permit drawings

DISCUSSION… seeking input on…

- Balancing trees and housing goals
- Fee in Lieu
- Tree Retention
- Aligning Trees & Stormwater BMPs
- OTHER TOPICS?

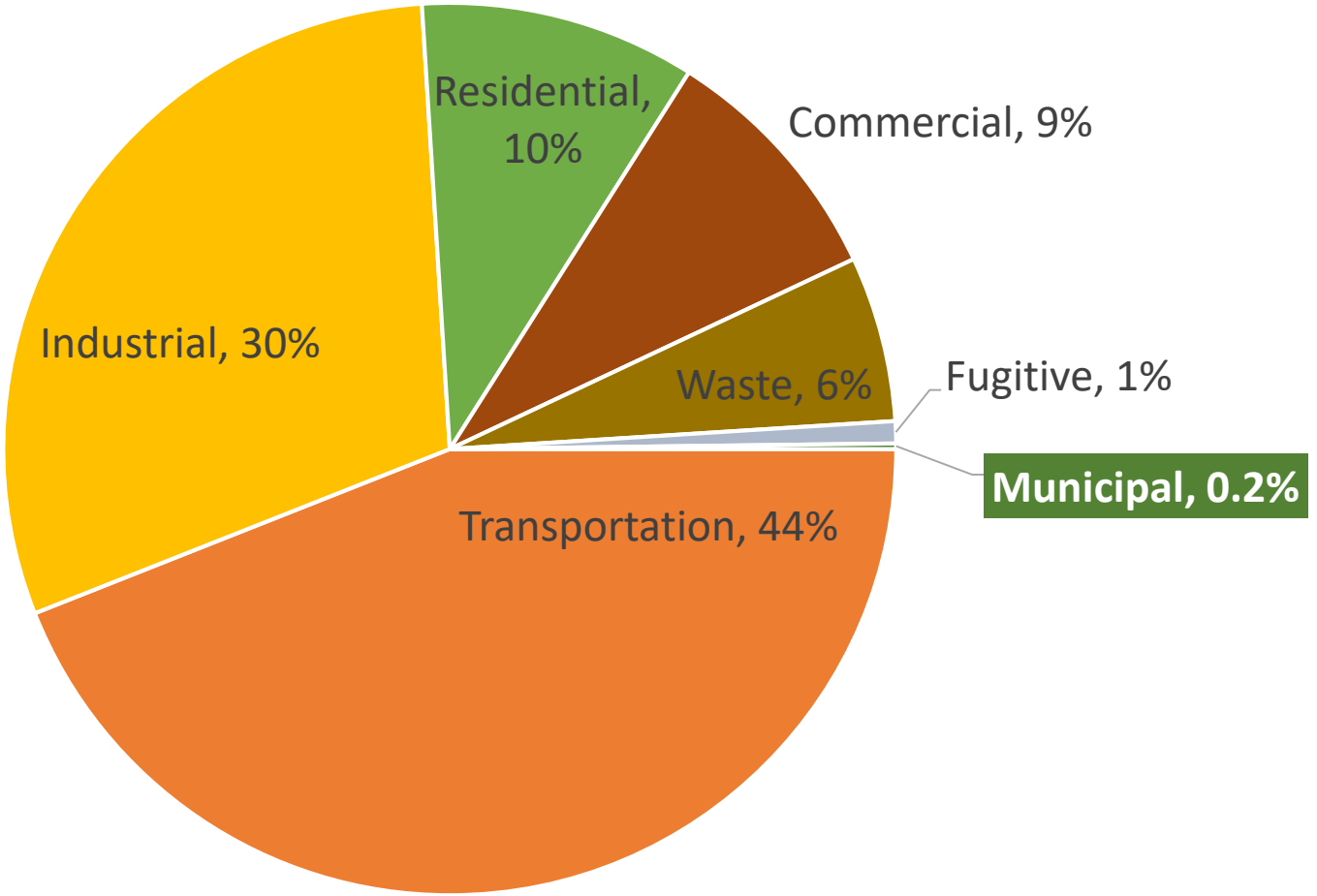
Tacoma Affordable Housing

Municipal Decarbonization

Facilities & Fleet update

Sustainable Tacoma Commission
December 14, 2023

COMMUNITY & MUNICIPAL EMISSIONS



Leading By Example!

FACILITY & FLEET POLICY DRIVERS

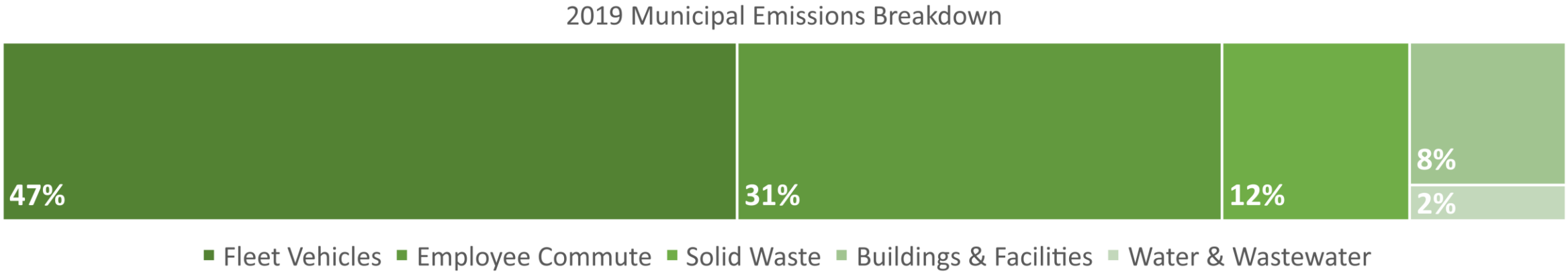
Decarbonization Resolution 40776

(April 2021)

- FACILITIES: Phase out natural gas in existing municipal buildings
- FLEET: Procure zero/low emission fleet vehicles
- BOTH: Install EV chargers at City worksites

2030 Climate Action Plan (Dec. 2021)

- FACILITIES: 30% reduction from 2019 carbon emissions
- FLEET: 50% reduction from 2019 carbon emissions
- BOTH: 100% carbon neutral by 2050



FACILITY DECARBONIZATION

Municipal Facilities Decarb Study
with
WA State Clean Buildings Performance Std.

FACILITY DECARBONIZATION STUDY

Decarbonization Resolution 40776, Section 2 (April 2021):

- Inventory City-owned facilities that use fossil fuels & evaluate feasibility of retrofitting with low emission sources

Study Driven by:

- Natural Gas 18x more Carbon Intensity than Tacoma Power's Electricity
- Effectively align decarbonization projects with Facility Capital Planning
- Evaluate of 9 key buildings - 40% of Muni Commercial Bldg. emissions & 25% of Floor Area

FACILITY DECARBONIZATION STUDY

Municipal Facility Decarbonization Study		2030			2050			Total
MFDS Building	Dept.	Decarb Cost	CO2e Reduction (MT/yr)	Cost / Annual MT CO2e Saved	Decarb Cost	CO2e Reduction (MT/yr)	Cost / Annual MT CO2e Saved	CO2e Savings (MT/yr)
Fire Station 08	PW	$1,731,488	-19.7	$88,030	$219,033	-2.4	$92,332	-22.0
Lighthouse Senior Center	PW	$706,359	-30.8	$22,915	$258,978	-5.4	$47,776	-36.2
Pantages Theater complex	TVE	$36,514	-8.3	$4,390	$5,156,303	-63.1	$81,749	-71.4
Police Headquarters	PW	$2,946,172	-244.2	$12,062	$1,800,352	-4.7	$382,655	-248.9
Tacoma Convention Center	TVE	$1,370,720	-37.9	$36,155	$6,796,134	-152.6	$44,525	-190.5
Tacoma Main Library	TPL	$2,609,029	-105.4	$24,753	$1,083,262	-7.0	$155,581	-112.4
Tacoma Municipal Building	PW	$0	0.0		$4,358,533	-7.3	$598,564	-7.3
Tacoma Municipal Building North	PW	$1,786,410	-2.2	$814,994	$888,321	-1.3	$677,813	-3.5
Tacoma Solid Waste Admin and Shop	ES	$445,144	-24.9	$17,888	$2,809,695	-70.7	$39,724	-95.6
TOTALS: 9 Study buildings		**$11,631,834**	**-473**	**$24,568**	**$23,370,610**	**-314**	**$74,312**	**-788**
			-51%		**<- GHG emissions % reduction vs baseline ->**			**-84%**

10 Facility Improvement Measures assessed (FIMs)

Convert HVAC to Electric Heat Pump * Convert Hot Water to Heat Pump * Air Sealing & Mech. Insulation

* Lighting & Controls * Duct Sealing * Envelope upgrades * Add Rooftop Solar + Battery Storage * Water Conservation

FACILITY DECARBONIZATION STUDY

Fiscal Summary:

- Figures below averages from low & high pre-Rough-Order-of-Magnitude estimates
- Energy systems of 9 study buildings assessed, All City Buildings only scaling factors
- Asset planning needed for buildings that City may renovate / repurpose / replace

Investment	9 MFD Study Buildings			All City Buildings		
Investment Period (Years)	2023-2030	2031-2050	Total	2023-2030	2031-2050	Total
Base Case Investment	$9M	$12M	$21M	$55M	$76M	$131M
Decarbonization Investment	$12M	$23M	$35M	$74M	$148M	$222M
Decarbonization Investment Premium	$3M	$11M	$14M	$19M	$72M	$91M
Carbon Reduction (% of 9 Facilities Total)	-51%	-32%	-83%*			
Carbon Reduction (% of City Facilities Total)	-23%	-15%	-38%			
Add Rooftop Solar + Battery Storage	$0M	$16M	$16M	$0M	$99M	$99M
Additional Carbon Reduction vs Baseline	0%	-2%	-2%			

*Remainder of 2050 emissions eliminated by Tacoma Power grid generation reaching net-zero carbon emissions.

FACILITY DECARBONIZATION STUDY

WA Clean Buildings Performance Standard

ComplianceTimeline and Requirements

*GSF- Gross Square Feet

- **Energy Use Intensity Target:** Full year of data I year before Compliance Deadline
- **Energy Management Plan:** written and in use at least I year before Compliance Deadline
- **Operations & Maintenmance Program:** operational I year before Compliance Deadline

WA CBPS – GG Buildings only

Property Name	Dept	2019 EUI	EUI Target	EUI above / below Target	COT Benchmark Start Date
Center for Urban Waters	ES	74	90	-16	June 2027
Tacoma Municipal Building (garage GFA excluded)	PW	57	66	-9	June 2026
Police Warehouse includes Fleet Services	PW	36	66	-30	June 2026
Police Headquarters	PW	117	72	45	June 2027
Tacoma Main Library	TPL	50	62	-12	June 2026
Tacoma Dome	TVE	69	74	-5	June 2025
Convention Center, Greater Tacoma	TVE	51	74	-23	June 2025
Cheney Stadium	TVE	1	40	-39	June 2026
Theater complex: 1 Pantages+Jones+TOTS	TVE	50	59	-9	June 2026

DECARB + CBPS COMPLIANCE

Facility	FIM Name	Decarbonization Pre-ROM Budget	Annual CO2e Savings (MT)	Estimated EUI Reduction	Return on Investment (ROI)
Police Headquarters	01.01 Convert to Heat Pump Heating	$ 2,542,587	205.5	37	5.2%
Police Headquarters	12.01 Convert to Heat Pump Domestic Hot Water	$ 361,625	29.7	5	5.2%
Police Headquarters	13.01 Envelope Air Sealing	$ 41,959	9.1	2	7.8%
Police Headquarters	09.01 Lighting / Lighting Controls	$ 437,580	2.2	10	4.6%
Police Headquarters	05.01 Low-No Cost Measures and Building Automation System (BAS)	$ 103,080	1.9	9	36.4%
Police Headquarters	10.01 Solar PV and Storage	$ 1,265,969	0.5	3	0.3%
Police Headquarters	03.01 Duct Sealing	$ 438,958	0.3	2	0.5%
Police Headquarters	13.02 Envelope Upgrades	$ 777,508	0.2	1	0.5%
Police Headquarters	18.01 Water Conservation	$ 43,225	0.0	0	6.9%

FLEET DECARBONIZATION

Electric Vehicle Siting Study
to
Fleet EVSE Action Plan

ELECTRIC VEHICLE SITING STUDY

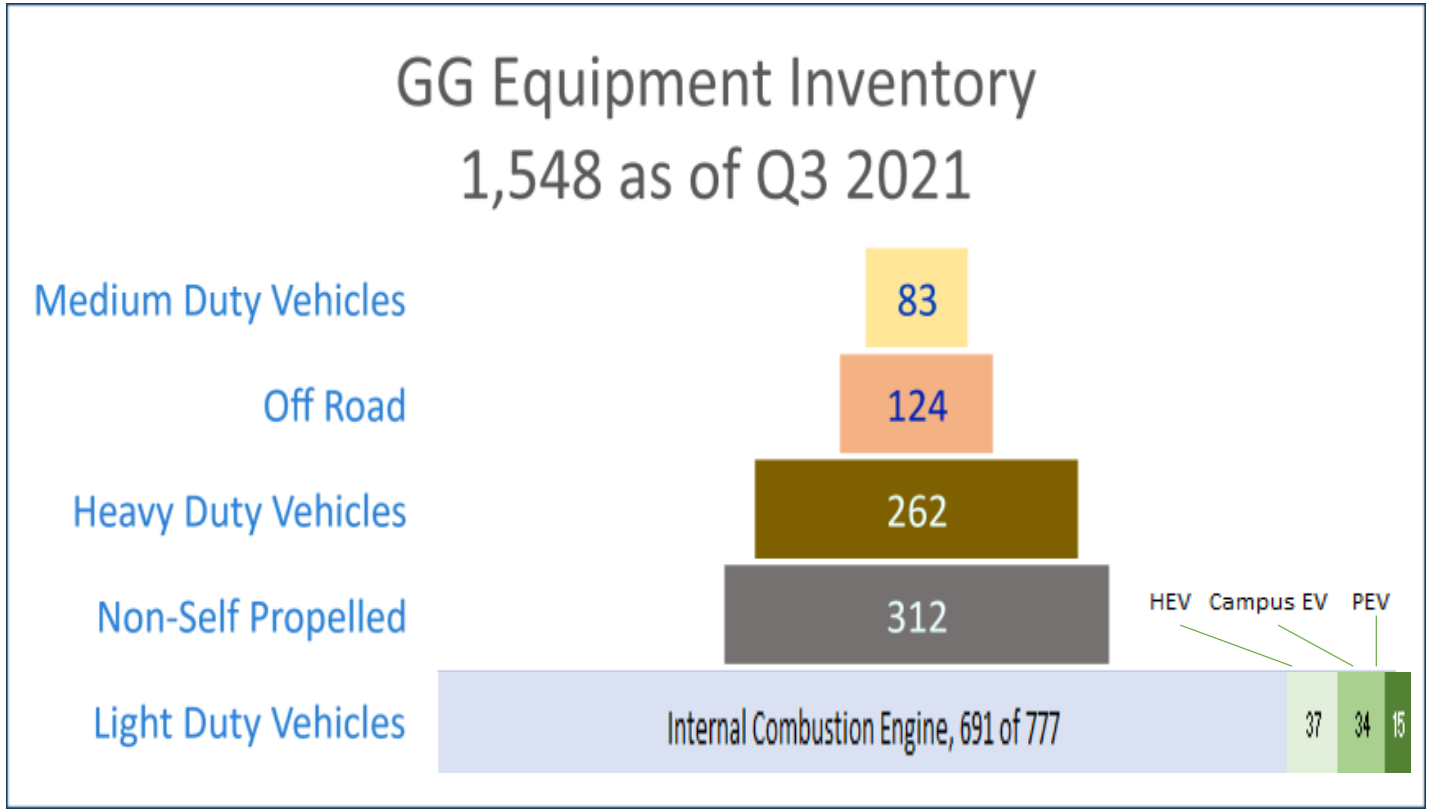
Decarbonization Resolution 40776, Section 3 (April 2021):

- Develop a plan to retrofit each City-owned parking facility and building within the City of Tacoma with electric vehicle ("EV") charging stations by 2030

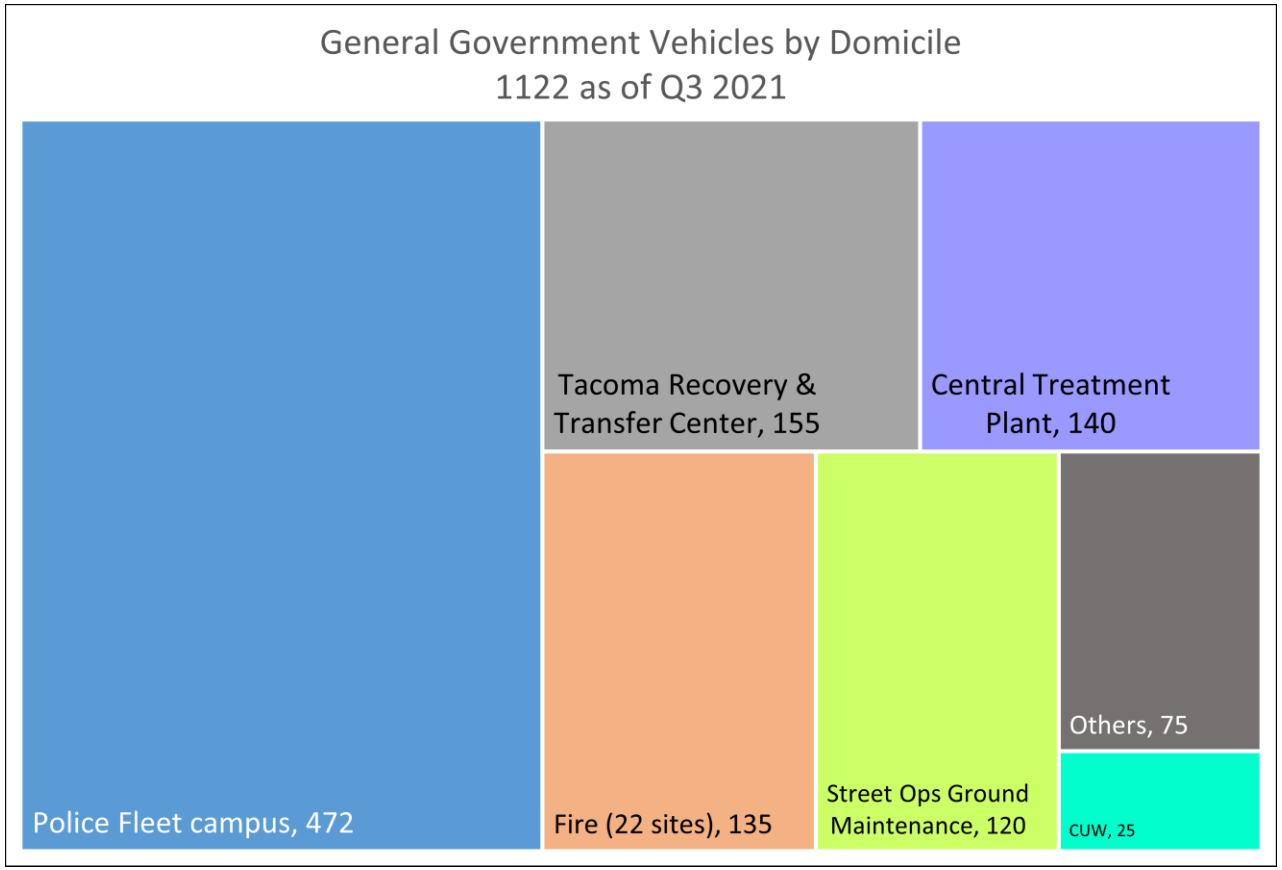
Goals of Study:

- Support 50% fleet emissions reduction per 2023 Climate Action Plan
- Through analysis, characterize of existing fleet vehicles suitable for EV replacement, and the sites where they domicile (park overnight)
- Scope electrical infrastructure needed next 5 to 10 years to support fleet transition to EV
- Turnkey Cost estimates, Policies, Technology guides, and support grant applications
- Consistent with Policy #6.0 Fuel Decarbonization & Biz Mobility Policy (Aug. 2022).
- Address backlog of beyond replacement year vehicles by leveraging fuel transformation

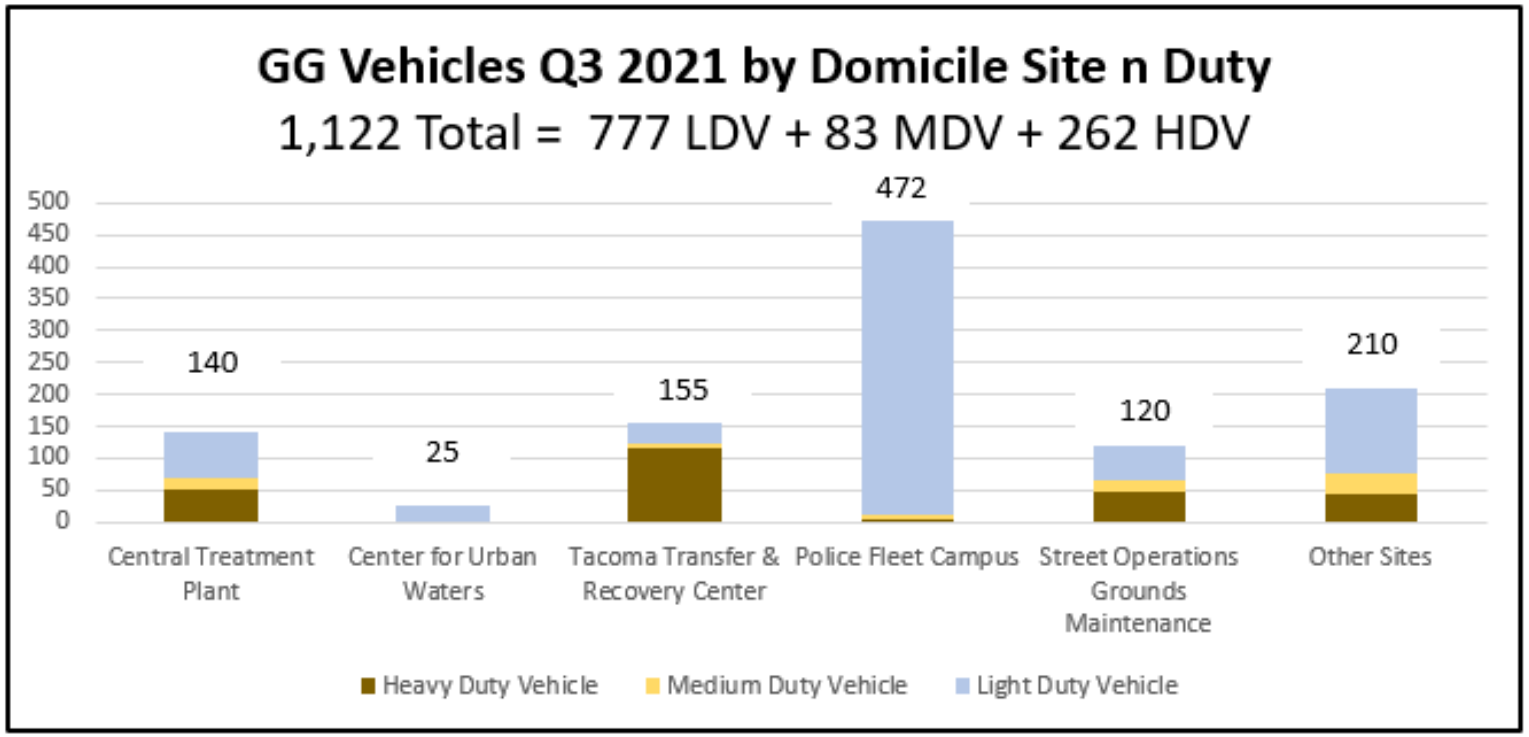
EV SITING STUDY: GG Fleet Inventory



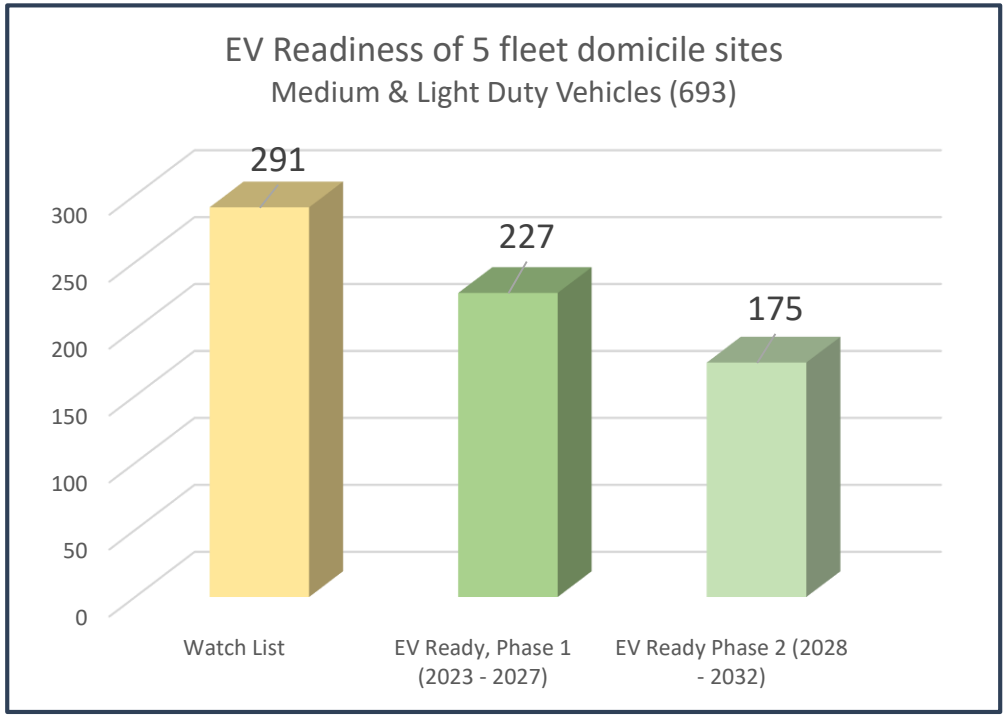
EV SITING STUDY: fleet vehicle locations



EV SITING STUDY: 5 sites by Duty



FLEET ELECTRIFICATION: EV READINESS



Watch List: Not electrified at time of replacement
Phase 1: Potentially EV Replaceable 2023 thru 2027
Phase 2: Potentially EV Replaceable 2028 thru 2030

FLEET EVSE ACTION PLAN: 5 Sites

- Infrastructure Recommendations @ $3.6M turnkey costs
  - 83 new charger plugs + 32 existing plugs = 115 @ 5 sites

Fleet Domicile	Recommended EVSE Upgrades (# of plugs by output power)			Estimated Cost
	L2 Low	L2 Med	L3 DCFC	
Central Treatment Plant	9	4		$268,480
Center for Urban Waters	*use existing infrastructure*			$0
Police Fleet Campus	16	22	12	$3,023,680
Streets & Grounds Campus	4	4		$79,620
Tacoma Recovery & Transit Center	2	8	2	$230,040
Subtotals	31	38	14	$3,601,820

FLEET EVSE ACTION PLAN

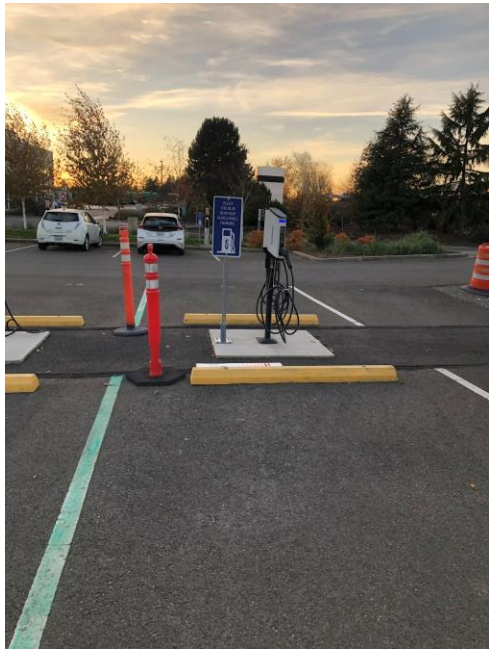
WHAT: *strategic guide for City-wide implementation of charging infrastructure to meet fleet electric vehicle transition*.

KEY ELEMENTS

- Strategic Recommendations
- Policy Recommendations
- EVSE City-Wide Standards, 1 of 8 appendices

NEXT STEPS

- Project Scoping & Decarbonization cost-benefit analysis
- Grant & other funding opportunities
- Clean Fuels Standard credits
- Federal Tax Credits



CITY EV CHARGING SNAPSHOT

COT EVSE	Fleet	Worksites	Public	Total	*2024 forecast*
SITES	*7*	*5*	*16*	*24*	
Plugs - Level 1 (120V)	10			10	*3*
Plugs - Level 2 (240V)	58	46	41	145	*53*
Plugs - DCFC (480V)				0	*4*
PLUGS	**68**	**46**	**41**	**155**	*60*
2024 Plug forecast	*41*		*19*	*60*	*+39%*