

Formulating Recommendations...Discussion of Recommendations

Wolfe Comments

The UFTF recommends including trees as an addendum to the Common Council approved Policy for funding the Undergrounding of Overhead Utility Lines.

- The addendum would add trees to the policy (currently they're not mentioned) and include setting aside non-TID/TIF, consistent annual funds for partial underground projects.

The UFTF recommends setting aside consistent annual funds for partial underground projects.

- Talk to the Alders about appropriate funds/percentage/etc.
- Separate funds are important to ensure that there is funding available specific for undergrounding.
- Idea for formal collaboration with MG&E to help identify most cost-effective locations – Engineering representation, consumer representation.

The UFTF recommends that the 5-year street reconstruction plan be reviewed to identify candidates for a full or partial undergrounding projects. The goal would be to prioritize locations that meet the following criteria, which includes but may not be limited to: which projects are single phase residential areas where the terrace width is sufficient for large trees? Is there space for private tree plantings? What's the current canopy coverage? Is the road popular with cyclists and pedestrians?

- This criteria-process could be similar to how streets are chosen for reconstruction:
 - To decide street reconstruction, there are ratings that consider sewer maintenance issues, pipe in poor condition, missing pipes, water main breaks, street ratings, street function. Most problematic streets get moved to the top of the list.
 - There are different types of projects – entire reconstructs, resurfacing, resurfacing + utilities. Roughly, 25 projects a year total. Reconstructs should be the focus since there are more opportunities.
- Criteria could be: what projects are there? Which ones are single phase residential areas where the terrace width is sufficient for large trees? Is there space for private tree plantings? What's the current canopy coverage? Is the road popular with cyclists and pedestrians?
- Drawing for the Minneapolis example – prioritize placing conduits in other locations. ○ Require sharing the tube
- Cost-benefit analysis – how much canopy coverage does undergrounding get us? How does that compare with other initiatives? Would it be possible to get MG&E's pruning costs and factor that in? MG&E benefits from undergrounding, too. It's possible that MG&E could contribute to a cost-share for undergrounding. Contribution could include funds otherwise dedicated towards line/pole maintenance costs, tree trimming costs, etc.
- Madison Canopy Street Trees Group came up with two ideas for MG&E to assist – voluntary contributions on individual bills and tree investment program (long-term loan program). The donations would need to be distributed equitably (social justice component).
- Costs need to be verified – hence the idea for a pilot project. Is getting cost estimates the function of this particular committee?

- For street reconstruction projects, would it be helpful to provide a best-case scenario for trees? To include undergrounding, it might be difficult. Design a street scenario with the best conditions for the most canopy.
- **Action item:** Look up language from Minneapolis.

The UFTF supports a study in order to identify of areas of the City that would benefit from undergrounding.

- Host the discussion about canopy coverage in other recommendations.
- **Action item:** Is this our recommendation to have the City fund a study for undergrounding high voltage lines to determine cost/benefit ratio?

The UFTF supports adding the following to the ordinance: “In new developments, redevelopments, and street reconstruction projects, terraces should have a minimum width of 8’, with 10’ being optimal, and the terrace should have 10’, 12’ minimums for arterial and collectors, whenever possible.”

- Terrace width
 - Based on previous meetings, there’s a minimum width for the road in the ordinance, there’s a minimum for sidewalk. There’s no minimum for the terrace width within the ordinance.
 - Reallocating both boulevard/median space to the terrace? Why not both? Decided to not get into boulevard
- For street reconstructions, the opportunities for widening the terrace should be considered.
 - **Action item:** Is 16.23 Land Subdivision Regulations (8) Design Standards the ordinance we would want to add the terrace width requirements

The UFTF recommends that developers include a tree preservation and replacement plan – which identifies public and private trees potentially impacted by staging, construction process, etc. – with the submission of their development plan.

- The preservation plan could include limitations on frequency of root compaction, where materials will be stockpiled, etc. The replacement plan could include more requirements than currently (e.g., more soil to encourage faster tree growth, remediation or fee for canopy loss).
- Idea for 2-year warranty? The issue would be enforcement.
- Private trees would be under the Planning Department to enforce; public tree would fall to Forestry.
- Incentives can be incorporated. It would be possible to make removing the tree very cost prohibitive.
- The current process for tree removal during development is that the alders get 72-hours to respond to the removal. If a tree is removed, then it is assessed whether or not a tree can be replaced.
- **Action item:** Is this related to the Redevelopment general discussion listed below?
- **Action item:** Would some of these be addressed in a Tree Technical Manual?

During street reconstruction projects [that install curb and/or sidewalk], the UFTF recommends that every effort be taken to preserve trees and develop a best-case scenario for canopy trees.

- Madison in Motion did recommend inclusion of sidewalk where it would useful and every effort would be made to preserve the trees.

- Engineering is coordinating better with Forestry to reduce these issues; they're also using creative solutions – limiting parking to one side of the road, reducing street widths.
- There are currently situations where people get off of buses right into someone's garden.
- **Action item:** Do we want to recommend criteria for determining what/how trees will be preserved? The action item noted is the question I have. We can make updates to our standard specifications (would be for 2020 at this point), if necessary, but we have made significant progress in improving our protection efforts. If there is something specific, we can work with each Engineer to include a special provision in 2019 contracts.

The Urban Forestry Task Force recommends that Housing or Zoning investigate how new development single-family lots can have at least a minimum of one tree planted per lot.

- No current requirements for private trees on single-family or duplex lots.
- However, who would be responsible for any incentives/barriers?
- Issue of maintaining trees – even if planting the tree gets landscape points, there is no penalty if the tree isn't maintained.
- Use point system – each single-family home has to have two points?
- No opposition to that idea, more an issue of logistics: Zoning does not want to administer a landscape requirement for one or two-family homes. If they did so, landscape plans would increase by 150,000. A proposed alternative would be to go through neighborhood covenants. Resistance from Zoning stems from ongoing maintenance. By ordinance, you must be consistent with your site plan until you get approval to change that. At the moment, for any commercial property, there is an expectation that, if the plan has a tree, Planning will find a tree or write an order for one. For a subdivision, Zoning would not be checking for compliance. It would be easy to write an ordinance to require a tree be planted, but it would be difficult to have the tree into perpetuity.
- However, City does not enforce covenants – which are agreements that are created between developer and neighborhood, rules that the neighborhood agrees to abide by. There is no legal authority to enforce some covenants. City will only bring it up to the Zoning level but not beyond.
- There is possibility to base the tree requirement on subdivision density. A smaller, denser area might only have room for one tree, while larger areas could accommodate more trees.
- Recommendation can be general because they will be forwarded to other agencies. The other agencies can then work out the details.
- Idea to generate guidance for plantings – diversity, size, location.

The UFTF recommends that early neighborhood development plans include an inventory of canopy coverage, identify key areas for conservation, and record justification.

- Plans don't include current or future canopy; having this information will allow for future preservation, conservation, removal decisions.
- Conversations need to occur among developer and Planning Commission. Make the process more formal?
- Many development plans do address wooded areas.

The UFTF recommends that a study be conducted to assess canopy coverage in the city and then use that information to develop a target goal (either by a compounding interest model or a minimum standard model). This goal should be neighborhood-based and encourage growth of canopy coverage.

- This information could be used to inform other decisions – private development, engineering projects.
- Compounding interest model: “Over 10 years, increase the canopy coverage by 7% per year”
- Minimum model example: “General neighborhoods should have no less than 15% canopy cover, downtown and heavily developed areas (for instance, East Towne Mall) should have no less than 5%.”
- Canopy coverage guidelines are typically in the 24 to 27% range for a whole city; however, that kind of assessment isn’t that effective. It presumes that the coverage is distributed equally, but there are variations – areas with more canopy coverage, areas with a lot less. It can therefore be misleading with a higher concentration of trees in parks, natural areas, etc.
- Idea to not put a hard number out there for canopy goal because 1) not enough information and 2) need to know what the general trend is, historically, geographically. Include statement of measuring canopy coverage in the future (frequency TBD).
- Discussion of neighborhood boundaries, planning councils, aldermanic districts – how to split the city up in order to develop viable, meaningful goals. Idea to use City’s Planning Division – Neighborhood Indicators.
- Equity considerations
- Goal should include canopy preservation as well.
- Are there are other models that have been successful and that could be implemented in Madison? How do you define ‘livable community’? Data on the number of street trees, data on number of parks trees, number of private trees is unknown. The goals should be to increase that number but need to decide how.
- 2013 data
- Forestry is maxed out in regarding to staffing but there are a lot of sites that are vacant. There are also parts of the City that have never received a tree (e.g., Alder Carter’s house); these are known as assessable requests. New plats are also assessed. Developers will waive the right to a public hearing. New lot, without an existing tree, is a different, relatively rare situation. Typically, those sites already have a tree.
- Forestry plants approximately 3,000 trees a year, removes 2,000. Parks plants 400 trees a year; this might be a very good area for improvement.
- Idea is to measure by the minimum – downtown shouldn’t have less than 5%, general neighborhoods shouldn’t have less than 15%. This allows for some customization, handle areas like East Towne Mall and the airport differently. Addresses equity issue, too.

I support the idea to have a specific city-wide canopy coverage goal. I think we should do a review on district by district basis, and use that to help target specific areas for improvement. We can identify areas of the City that are in more need of tree canopy coverage, which will help guide some of the investment.

Private trees and ash trees

- Building Inspection and private ash trees – what’s the process? There are going to be a lot of calls as ash start to decline. Backyards, commercial processes, apartment complexes still have quite a bit of ash. Non-summary abatement would be the process for BI.

- Ordinance allows the City to condemn a tree that is affected by oak wilt, Dutch elm disease, or EAB. This is done through the Board of Park Commissioners; the process is lengthy. If a property owner is in non-compliance, they are notified that the tree would be removed and they are charged. That charge is a special assessment.
- MG&E has educational campaign. Alternative educational materials – ash ID, emphasis on why it’s important to remove (brittleness)
- City would be unable to absorb costs of all private ash removals.
- Regulatory framework is in place, maybe just raise awareness that trees can be condemned.

Can an educational campaign about potential condemnation also include ways to try to avoid the situation, such as treating your ash trees?

The UFTF recommends that the list of allowable trees be removed from the ordinances for the Design Districts.

HOLD: Spacing

- Ordinance requirements do not address spacing issues for trees. There is not an ordinance that requires trees to be every 30’ for instance.
- Light poles

There are certain areas where spacing becomes a public safety issue. At corners, it is important to maintain proper visibility. If there is going to be a review of tree placement near intersections, I think there would need to be some requirement for not blocking signs, signals, and maintaining a minimum of 10’ (not sure if this is the appropriate dimension) of clearance to any canopy. This may result in larger initial plantings and more regular pruning.

Similarly, street lighting is providing to improve safety/visibility at night. If that light just gets blocked, that negates the purpose of the light. It’s my understanding that Madison is already providing street lighting below typical urban levels. Maybe there could be a review of the spacing to lights depending on the style of light? Some lights have arms and extend over the street, other lights have the fixture mounted directly on the side of the pole.

HOLD: Redevelopment general discussion

- Removal of street trees related to redevelopment and staging areas
 - For instance, if trees are removed, developers might be required to provide soil volume at their cost to regrow that tree as soon as possible – more optimal environment
- Involve Planning and use canopy cover goals – make it consistent – Mifflin example – neighborhood was interested in involving canopy in the plans

The UFTF recommends requiring zones free of laterals (e.g., water, sanitary) and parallel utilities for redevelopments at the beginning of the process. The site plans should also consider to the center of the road for the purpose of planting trees with adequate soil volume areas.

- On any site plan, they have to show where the fire lane is, for example. A standard comment could be “please define your lateral-free zones.” Private Development Coordinator would be involved in this process; this could be part of plan review and plan issuance. Engineering is working on more consistency between site plans and right-of-way plans.
- Doing this at the beginning rather than the end; codify it.
- Idea for developers is to flip their staging areas into areas where trees will be planted.
- The idea of clustering utilities to provide space for trees and their soil might fall under this recommendation; however, it’s not just laterals.
 - Storm sewer placement - There have been recent changes to the regulations, which complicates matters. For instance, Monroe Street had issues that, between size and depth of the pipe, there wasn’t much room.
- **Action Items:** Decide what “adequate” soil volume means

Redevelopment in general:

I’m not sure if there can be a requirement to cluster laterals, as there may be capacity issues off of existing mains (for example, the larger water main could be on one side of the building, but the larger sanitary main on the other), and there are also code requirements for spacing between water & sewer. This can also be due to architectural design (usually vetted through UDC, etc.) where roof line designs will require storm sewer connections in multiple locations. There’s just a lot of variability to the building design and utility layout. It can be a request, but I’m not sure if it would work as a requirement.

I like the idea of looking at trees as a piece of City infrastructure. They should prioritize preserving existing trees as much as possible, and, if they can’t, they should provide an environment where a tree can be replanted that would actually replace the tree removed. A tree is not the same as a section of sidewalk that can be removed and replaced and its back to the original condition.

Redevelopment plans and plans for permits to excavate in the right-of-way should require existing trees to be shown on all plans, including utility plans, to confirm work relative to tree locations. Redevelopment plans should also include a landscaping plan for the right-of-way, which can be reviewed and modified through our Developer Agreement process (I think this is typically how redevelopments are working now).

The UFTF recommends that Forestry obtain the appropriate software licenses and permissions to coordinate more extensively with other agencies involved in Public Works projects.

- Board of Public Works – project with design engineers, show where the water line is going, show where sanitary laterals are going – MicroStation, transitioning to AutoCAD – designers have their own design file, which can be cross-referenced. License would need to be purchased and network permissions adjusted. AutoCAD readers do not read Civil 3D data, which is what Streets uses. Depending on the project, there are design meetings, and Forestry could be brought into those meeting.
- Planning is transitioning to an electronic review process. Landscape sheet and utility sheets would be the most pertinent. Engineering looks at where the laterals go.
- Private development
 - Engineering is looking being more consistent between the different plans.

The UFTF recommends that the new constructions should require 800 cubic feet soil volume for terrace trees. For downtown areas and reconstruction projects, 800 cubic feet soil volume should be implemented whenever possible.

I think in new developments or in residential areas where we have 8' or wider terraces, the 800 C.F. is a good goal. However, I think in the downtown, denser areas with much narrower terraces, a more realistic goal should be selected. On projects where I have included Silva Cells, I still have only gotten around 300 C.F. If the goal is too lofty and too difficult to achieve, it will just be ignored.

- Temporary easement for the purpose of planting tree o Right-of-entry to repair sidewalk.
 - Easement requires document recording, survey for boundary lines. Mapping will be prohibitive.
 - If temporary easement, property owner would be free to cut down the tree once the easement lifted. Right-of-entry would be a better course of action.

Is this for planting a tree on private property?

- Engineering specifications – several different situations that could target soil volume recommendations:
 - Street reconstructions in downtown and other highly urbanized areas that have a high density of people. Silva-cells are particularly advantageous here because you can still have pavement surface and adequate volume. Minneapolis has some language in its ordinances. 800 – 1,000 cubic feet for healthy tree. Terrace width requirements can be waived if Silva-cells are used or similar deep-structured supports. In areas where the trees have gotten too big for a grate, the grate is removed and a granite mixture is placed in the area instead. Interlocking plastic pavers have open areas that can use granite mixture; this could be a compromise if Silva cells aren't used. There's a concern about compaction and the longevity of the tree. Grates can be adjusted to a certain point, then the granite is the only feasible option.
 - New construction projects – new plats, new streets.
 - Replacement trees
 - Redevelopment through Zoning and Planning. Don't make terrace width and sidewalk mutually exclusive.

Occasionally, private developments are required to dedicate easements for increasing sidewalk width or providing space for the future street expansions, etc. Is it possible to dedicate easements with developments to improve terrace space in locations where there are issues with tree canopy coverage? I'm not sure if this legally justified under current state law, but may be worth exploring.

- Need to consider top soil settling – who becomes responsible for fixing any potential hazards? o Structural soil more attractive than a Silva Cells
- Developers should pay to install Silva-cells or more broadly, this much volume for trees; there's no landscaping requirements. How to best implement? "Requirement to provide this many cubic feet." Include in ordinance? It is not an option to include in zoning code. It could be part of the development agreement. It would be cleaner to include in the requirements for construction staging.
- When we do need to add lane capacity (federal funds), there's a possibility to include soil volume requirements in that. Transportation needs should not be at the cost of the trees. Federal funds are typically cost-share, and the City typically exceeds that amount.
- Trees planted might be planted too high in the grate. In current planting operations, there's a layer of stone between soil and the grate. Size of the grates vary by location. Standard recommendation is to

use 4x8 grates. 4x12 isn't great from a maintenance perspective; Forestry would need to keep extras on hand for any repairs.

- State Street example – how much traffic do those honey locusts receive? State Street has its own special construction: concrete slab bridges over the top of the terrace. This reduces the level of compaction, and it's continuous for most of the street. This approach isn't widely used because it complicates any utility repairs.
- Library – 2 cells wide and 6 cells along the length. 350 cubic feet, roughly.
- Monroe St – plan included language about identifying areas that could be “excavated out” to provide more space.
- Current specs are at 6” of topsoil (this is an improvement from the previous 4” requirement) – increase to 12”. Silva cells are 1’ back from the edge of the curb.
- Minimum soil volume standard; going to be tailored to each situation. 30x8’ wide terrace x 4’

We could explore different options for improving soil volume for trees. This could include using 12” of topsoil as suggested, or doing more tree openings with some sort of surface treatment (interlocking plastic cells with crushed granite, for example). We could also explore making a bid item for tree planting excavation to have more soil in select locations, but this would require more direction from the Forestry specialists to select the locations and inspect the work.

The UFTF recommends that soil volume be included in the parking and general landscaping zoning specifications for private development.

- There's an overall landscape section – 1) general landscaping with a point system and 2) development frontage, if there's space between the building and the ROW.
- Parking requirements require a percentage of landscaping; there's a requirement that a landscape architect be involved. Volume could be included in zoning code, but it'd be challenging how to administer. From a construction inspection perspective, how do you measure volume on site? Parking lot landscaping, development frontage landscaping (combo trees and shrubs). Zoning has language that, if there's not room, you could do a fence/hedge. Code includes maximum lot coverage, landscaping requirement.
- Planning Commission doesn't go into this level of detail; this would be for staff.

The UFTF recommends that developing an Urban Forest Initiative that would provide consumer education and conduct outreach events, similar to the Clean Water Alliance.

- This initiative could be partially funded by the City; the City would be a facilitator, maybe the instigator.
- A goal of the initiative would be to provide consumer education about tree maintenance and increase awareness of tree-related issues.
- Initiative could lead walks and conduct other outreach events.
- A position could be created to hire an outreach and education specialist, who would combine education/communication and an arborist background.
 - Statewide gardener educator
 - Extension
- Work with Extension to identify how to communicate to the public – who is most likely to be responsive? What are the messages that resonate?

- Would want to use other sources of funding.
- The Outreach Coordinator could organize tree giveaways similar to the Tree Philly programs.
- Possibility to coordinate a program in which arborists donate their time to accomplish some goals?
- Tree Keeper/Tree Tender programs – for instance, Open Lands in Chicago helps teach classes, private industries participate/lead
- Tree walks
- Garden education
- Tree Keeper could do work that Forestry can't – trim up one branch, take off suckers, re-mulch

The UFTF recommends that the City work to develop an advisory board, in order to partner with the Arboretum, Extension, Urban Tree Alliance, and others to develop the brand of the urban forest.

The UFTF recommends a grant program that includes a tree giveaway with an emphasis on private trees.

The UFTF recommends creating a program similar to Tree Tender, Tree Keeper, or Adopt-a-Highway.

Forestry Master Plan

- Madison Sustainable Committee recommended a Master Plan, and examples were provided for Pittsburgh, Charlotte, Austin, Milwaukee, and others.
- Annual review of program – evaluation of sorts – accreditation of Forestry program meets all the needs and requirements of an accredited forestry program – accountability – Society of Municipal Arborists

Operations Manual/Tree Technical Guide

- Standard Operating Procedures (SOPs) as how to manage different aspects of tree planting and maintenance
- Private development – how trees are protected
- Palo Alto, CA was the first city to develop a guide, back in 2001. Their ordinances detail how the guide is to be used.

Inventory

The UFTF recommends that if, during the course of a development project, a terrace tree is removed, then the developer will be responsible for paying [\$x].

- Possibility to increase cost as DBH goes up? \$100 for the first inch, \$200 for the second inch, etc.
- What about a reward for saving trees rather than a punishment?
- When a property is developed and trees are saved, developer could receive incentive.
- That is in relation to private trees rather than terrace trees – a different situation.
- Use that money for a Silva-Cell to ensure that the tree will be replanted.
- Possibility for planting larger trees in high-traffic areas in order to ensure that the tree survives

As I noted before, we should look at trees as a piece of City owned infrastructure that should be replaced in-kind. In instances where we would like to promote additional efforts when not required, would there be a mechanism to encourage installation of better tree planting environments? Under current statutes, I think the City is capped at \$25K to pay for work to be done for the City by a developer, without competitively bidding out the work, and some of these funds are already allocated for other needs (pavement, sidewalk, etc.)

The UTF recommends that, if a tree is removed and is scheduled to be replaced, the replacement would take priority over solar panel installations.

- Zoning language – ordinances? – example: property owner who had solar panels wanted to have the neighbor’s street tree taken down; the answer was “no”
- Solar panels on private property benefit that individual, whereas the street tree benefits both individual and street tree.
- Need more data to assess environmental benefits of each
- Madison program = if there’s more than 30% shade, the program doesn’t go forward. There is a bit of wiggle room.
- You can have solar without having it directly on your roof. Airport is receiving solar panels; these would be synergistic opportunities.

DRAFT