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3 Part Analysis of BL2018-1416

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Attachments: *Excel Spreadsheet – Plug-n-Play Tables Showing Business Cost Impact Scenarios*

Executive Summary

This document demonstrates that Nashville is significantly behind its southern and peer cities in terms of tree density requirements. This document examines the estimated impact BL2018-1416 would have on a project's overall cost and determines that the proposals in this bill have a negligible impact to businesses. Finally, a field study in this document helps you visually connect with what the existing tree code looks like when implemented in the field. This three-part analysis indicates that the proposals in BL2018-1416 would be a positive advancement for the livability standards of Nashville, standards that have already been set by other peer and southern cities, and would not create significant hardships for the business community. Given the long list of benefits that trees provide a city, BL2018-1416 would clearly produce positive overall value for our city.

Summary of the Three Analyses:

1) **Comparative Analysis** - 7 peer cities were compared with Nashville's current Tree Density Unit (TDU) requirements and proposed requirements in BL2018-1416. The analysis determined that out of 7 cities remaining in the study, the average TDU for multi-family and commercial properties in these cities is 23 TDU, or 92" caliper per acre. BL2018-1416 proposes that Nashville has a slightly less than average tree density rate than its peer cities across the nation.

2) **Business Impact Analysis** – During the last stakeholder meeting consisting of the professional landscape architect community, one of the participants provided a series of landscape design plans that showed the impact BL2018-1416 had from a tree planting perspective. Each landscaping plan also rated the feasibility of each scenario found within BL2018-1416 with a grade from A thru F. The Business Impact Analysis takes three of the worst rated scenarios provided and conducts an overall project cost/business impact to the business assuming that the extra trees proposed by BL2018-1416 had to be mitigated, or paid in lieu of into the city's tree bank. Of the worst three scenarios, BL2018-1416 did not raise the overall (very low) project cost estimate above 1% increase in cost. (See Excel Spreadsheet Attachment)

3) **Field Study Analysis** – This analysis provides a visual case study of several commercial and multi-family properties, analyzes Nashville's existing and proposed tree code requirements, and compares these tree requirements to several other Tennessee cities. The analysis demonstrates that Nashville's existing tree code is inadequate for providing sufficient tree canopy in the newest developments occurring in Davidson County. It also concludes that other Tennessee cities have more robust tree planting requirements than Nashville's existing code.

Tree Density Unit – Comparative Analysis

23 TDU/Acre is the average for peer cities analyzed. *

**Not every peer city uses Tree Density Units and so this analysis took into account only those that did (6 total). Louisville, KY had a range and so the median of 17 was used for the TDU calculation.*

HOW DID WE DO THIS ANALYSIS? Almost every city has a unique way of applying tree requirements to different types of property, not every city uses "Tree Density Unit" factor; however, it is the most common. Tree Density Units are easily converted into inches. In Nashville, TN, .5 TDU equals 2" in tree caliper. All cities below have provisions that require a certain number of inches caliper trees per acre and so we took that inches per acre and converted it to TDU (unless they were already using TDU).

Tree Density Unit Comparisons With Peer Cities

City Name	State	TDU Required	Inches Per Acre Conversion	TDU Difference from Nashville (Current)	TDU Difference from Nashville (Proposed)	Special Notes
Nashville	Tennessee	***Current***: 14 TDUs ***Proposed***: 20 TDUs	**Current**: 56" **Proposed**: 80"	N/A	N/A	Nashville's increase from 14 to 20 TDUs is a 43% increase.
Franklin	Tennessee	~26	103"	12	6	Subtracts building footprint from acre.
Murfreesboro	Tennessee	15	60"	1	-5	Does NOT subtract building footprint from acre. (i.e. adds more trees) Nashville's code (current & proposed) does not do this.
Charleston	South Carolina	40	160"	26	20	
Charlotte	North Carolina	18	72"	4	-2	
Atlanta	Georgia	~23	90"	9	3	Comes from Georgia Urban Forest Study; Page 150; Assumes 2" per .5 TDU based on their community analysis; Page 158*

Louisville	Kentucky	14 thru 21	56" thru 84"	0 thru 7	(-6) thru 1	Louisville takes into consideration multiple variables including existing tree canopy cover (i.e. was it forested before development) and how much is impermeable surface increasing with development?
Indianapolis	Indiana	(See Notes)	(See Notes)	(See Notes)	(See Notes)	The Zoning Ordinance of Indianapolis's website has been unavailable during this research (site administrator was contacted). However, from news articles related to Indianapolis zoning requirements, a complete overhaul of the city's zoning ordinance occurred in June 2015. Landscaping density did increase and a new "Green Factor" was introduced. Green Factor provisions will result in an increase in the overall green space and/or environmentally-friendly improvements for new, larger commercial, industrial or special district development projects.
Raleigh	North Carolina	(See Notes)	(See Notes)	(See Notes)	(See Notes)	Raleigh uses a complex buffer requirement schedule combined with strict preservation and protection requirements & mitigation. It does not use TDU or %% canopy cover.

HOW WE CONVERTED TO TREE DENSITY UNITS (TDU)

Many peer cities landscaping codes were so advanced in its landscape and ecological considerations for its diverse cityscape, that it could simply not be converted to TDU at all. These 7 peer cities above were what we could find and convert easily. Still though, not every city uses Tree Density Unit system like Nashville does and in order to solve for this challenge we had to find a common denominator to use. ***Here is how it works…***

We looked for "Caliper Inches per Acre" requirements in zoning code specific for Commercial and Multifamily or something which could be converted into caliper inches per acre. Many times this would be referred to as "Aggregate Caliper Inches" (ACI) in other city's codes. "Caliper Inches per Acre" can easily be converted into Nashville's Tree Density Units.

Nashville Uses The Following Tree Density Schedule:

- 1 TDU = 4" Caliper Inches of Tree
    - 14 TDU per Acre x 4 Caliper Inches = 56 Caliper Inches per Acre

This is what Nashville currently uses + deducts building foot print.

Referenced Peer City Tree Density Requirements:

Figure 1

MURFREESBORO, TN - PAGE 166

- Local = 15 foot width

[2] *Required trees*. The number and location of required perimeter trees shall be determined based on the requirements of Section 27 of this article provided, however, the following additional requirements shall be met to determine the size and minimum number of required trees.

[aa] each newly developed site shall be required a minimum A.C.I. (acquired caliper inch) of sixty caliper inches of proposed trees per acre of development site. Trees in required buffer yards may not be counted toward this requirement;

[bb] twenty percent (20%) of required trees shall be a minimum four caliper inches in size;

[cc] twenty percent (20%) of required trees shall be a minimum three caliper inches in size;

[dd] no proposed canopy, under-story, or ornamental tree planted with a size less than two caliper inches shall be counted as a required tree;

[ee] a minimum of twenty-five percent (25%) and maximum of forty percent (40%) of required trees shall be under-story and/or ornamental trees; and

[ff] multi-stem trees shall have a minimum cane size of ¾" caliper and have sufficient canes to meet the required aggregate of 2 caliper inches.

60 Inches Caliper per Acre divided by 4 inches Caliper is 15 Tree Density Units. Note, Murfreesboro does not include buffer yards, building footprints, or understory trees to count towards their tree requirements.

Figure 2

FRANKLIN, TN - PAGE 247

TABLE 5-4: SITE LANDSCAPE REQUIREMENTS

Type of Landscape Material	Lot Type				
	Detached Residential (by lot size)			Formal & Informal Open Space Lots (ACI/acre) [1] [2] [3] [4]	Nonresidential and Mixed-use (ACI/acre) [1] [2] [4]
	< 10,000 sq. ft.	10,000-30,000 sq. ft.	> 30,000 sq. ft.		
Aggregate Caliper Inches (ACI) of Canopy Trees	6	12	18	60	82
Aggregate Caliper Inches (ACI) of Understory Trees	N/A	N/A	N/A	9	21
Minimum Number of Shrubs	N/A	N/A	N/A	50	96

NOTES:
[1] No more than 75 percent of each type of landscape material shall be deciduous.
[2] Portions of sites used for athletic fields, golf courses, cemeteries, riparian buffers, forests, natural areas, scenic viewsheds, agricultural uses, and other uses where new trees and shrubs are not appropriate may be exempt from these standards if, in the opinion of the Planning Department, the application of the requirements would serve no meaningful purpose; however, the requirements shall apply to the remainder of the site.
[3] Based on the unforested acreage of the open space lots only. Applicants wishing to receive credit for forested areas maintained in accordance with Subsection 5.2.4, Tree Canopy Retention, shall apply the ACI requirements to the gross acreage of the open space lots.
[4] Applicants wishing to receive credit for forested areas developed in accordance with Subsection 5.2.4, Tree Canopy Retention, shall apply the ACI requirements to the gross acreage of the open space lots or site area, whichever is applicable.

Franklin, TN requires a specific amount of two different types of trees: Canopy Trees & Understory Trees. Since Nashville does not have this distinction and because all types of trees count towards Nashville's TDU, we added Franklin's two required amounts of trees together to get 103 Caliper Inches per Acre, which divided by 4 inches caliper works out to be 26 TDU (25.75).

Figure 3

CHARLESTON, SC

E. Quantity and Location of Trees to be Protected

Before the issuance of a Zoning Permit for Commercial, Industrial, Multi-Family, and Civic/Institutional uses, the following number of trees with a diameter breast height of 8 inches or greater shall be preserved and protected in accordance with the provisions of Section 9.4.4.B of this Ordinance. All trees located within required buffers as outlined in Article 9.5 shall be protected.

1. 20 trees per acre; or
2. Any number of trees with a combined diameter breast height of at least 160 inches per acre.
3. Required drainage improvements such as detention and retention ponds and wetlands may be subtracted from the area used to calculate tree preservation requirements.

Charleston offers a variety of ways to satisfy their tree requirements, including a rain garden perk just like Nashville. Option 1 & 2 work out to be both 160 caliper inches trees required, which divided by 4" caliper works out to be 40 TDU per acre.

Figure 4

ATLANTA, GA

Tree density per zoning district on a site must be met regardless of any loss of trees. The requirements are as follows:

R-5 and R-4-A districts: 35 inches per acre
R-3, R-3-A, and R-4 districts: 40 inches per acre
R-2 and R-2-A Districts: 100 inches per acre
R-1 districts: 150 inches per acre
RG, PD and all other districts: 90 inches per acre

Atlanta, GA requires a simple 90 inches per acre for Commercial (and even more for MFR), which equates to 23 TDU (22.5); 90 inches divided by 4 inches caliper)

Figure 5

CHARLOTTE, NC

Sec. 21-94. - Tree save area and tree protection zone requirements for commercial development.

A minimum of 15 percent of the overall commercial site must be preserved as tree save area (hereinafter for purposes of this section, "commercial tree save area"). If less than 15 percent of the site has existing trees, additional trees shall be planted at a rate of 36 trees per acre to meet the commercial tree save area requirement. In the event any area of the commercial tree save area cannot be protected trees must be re-planted at 150 percent of the area removed.

Additions to existing sites that meet the criteria in subsection 21-4(2) shall protect all trees of eight-inch dbh or greater within the tree protection zone or maintain existing tree save areas for sites developed in accordance with the effective date of the ordinance from which this chapter derives.

In all cases, any perimeter tree and parking area planting requirements must still be met in accordance with section 21-96.

Charlotte, NC requires a little different math to get to inches caliper per acre. They have several mechanisms built into their code to promote mature tree preservation, but at the base of their requirement is 36 trees per acre. They require trees to be 2" in caliper. 36 Trees x 2" Caliper = 72 inches caliper per acre divided by 4 inches caliper = 18 TDU

Figure 6

This is the matrix like table that Louisville uses to address zoning, land-use types, and transect concerns etc. Depending on where the parcel is and what it is being used for will produce a class designation.

Table 10.1.1 Tree Canopy Categories by Form District

Land Use	Form District			
	Downtown, Traditional Marketplace Corridor, Traditional Workplace	Traditional Neighborhood	Regional Center, Town Center, Suburban Marketplace Corridor, Neighborhood, Suburban Workplace, Campus	Village
Single-Family Residential	Class A	Class B	Class C*	Class D
Multi-Family and Office	Class A	Class B	Class C	Class D
Institutional	Class A	Class B	Class C	Class D
Commercial	Class A	Class A	Class C	Class C
Industrial	Class A	Class A	Class C	Class C

* Docket No. 9-26-03; see website for adoption status outside Louisville Metro

The grid in Table 10.1.1 is applied to Table 10.1.2. You can clearly see that Louisville weights preserved trees over new trees. When 0% of trees are preserved then more % canopy cover is required for new tree canopy cover than if they maximized their preserved tree canopy cover.

Table 10.1.2 Minimum Tree Canopy Coverage

Class Canopy Requirement per Table 10.1.1	Preserved Tree Canopy Coverage Area	New Tree Canopy Coverage Area	Total Tree Canopy Coverage Area Required
Class A	5%	0%	5%
	4%	2%	6%
	3%	4%	7%
	2%	6%	8%
	1%	8%	9%
	0%	10%	10%
Class B	10%	0%	10%
	8%	3%	11%
	6%	6%	12%
	4%	9%	13%
	2%	12%	14%
	0%	15%	15%
Class C If site is 76%-100% covered in existing tree canopy	15%	0%	15%
	12%	6%	18%
	9%	12%	21%
	6%	18%	24%
	3%	24%	27%
	0%	30%	30%
Class C If site is 41%-75% covered in existing tree canopy	15%	0%	15%
	12%	5%	17%
	9%	10%	19%
	6%	15%	21%
	3%	20%	23%
	0%	25%	25%
Class C If site is 0%-40% covered in existing tree canopy	15%	0%	15%
	12%	4%	16%
	9%	8%	17%
	6%	12%	18%
	3%	16%	19%
	0%	20%	20%
Class D	20%	0%	20%
	15%	6%	21%
	10%	12%	22%
	5%	18%	23%
	0%	24%	24%

The city also addresses clear-cutting concerns by mentioning it here.

These are the typical "commercial" and MF properties that we are speaking about.

20% acre coverage translates to 14 TDU.

28% acre coverage is 20 TDU.

Figure 6: Louisville, KY has the most complex tree density requirements of all the peer cities that could still be converted into a range of TDU. It is a great example of how other cities solve for diverse cityscapes and urban forest considerations. Their system is simple yet sophisticated enough to account for their different classes of zoning and districts AND the amount of deforestation. Converting percent canopy cover is too complicated to explain and was provided by Metro Nashville Storm Water, Rebecca Dohn.

Sources:

ATLANTA

https://www.atlantaga.gov/Home/ShowDocument?id=6358

FRANKLIN

https://www.franklintn.gov/Home/ShowDocument?id=445

MURFREESBORO

https://www.murfreesborotn.gov/DocumentCenter/View/7633/2018-Zoning-Ordinance

CHARLESTON, SC

https://www.charlestoncounty.org/departments/zoning-planning/zldr/CHAPTER9_ALL.pdf

Raleigh, NC

https://www.raleighnc.gov/content/extra/Books/PlanDev/UnifiedDevelopmentOrdinance/294/

Indianapolis, IN

https://www.lexology.com/library/detail.aspx?g=cb9cbd11-ae29-4797-88d5-122eb50d6d0b

Louisville, KY

https://louisvilleky.gov/sites/default/files/planning_design/land_development_code/ldc2014e.pdf

Charlotte, NC

https://library.municode.com/nc/charlotte/codes/code_of_ordinances?nodeId=PTIICOOR_CH21TR

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Mitigation Cost - Business Impact Analysis

Every landscape plan in this analysis would produce less than a 1% cost increase due to the provisions found within BL2018-1416.

Context of the Landscape Plans Below: Eight landscape plans were submitted to the Planning Commission from one of the attendees of the first stakeholder meeting consisting of professional landscape architects. These landscape plans were accompanied with a table of the overall increase in trees required to be planted by the provisions within BL2018-1416. The table also broke BL2018-1416 provisions down into three different scenarios: 1) Red Scenario – Increase TDU from 14 to 20 2) Blue Scenario – Including Building Area in TDU 3) Street Trees Included in TDU. The landscape plans submitted to the planning commission also contained a feasibility rating of A thru F Grade. The landscape plan feasibility rating assumed all trees must be planted onto the parcel of property and did not take into account the option to pay "in lieu of fees" or mitigation credits into the city's tree bank.

How Did We Do This Analysis? Two of the worst rated landscape plans were selected for the Impact Analysis. These two were selected to show below because we could find accurate project cost estimates on them. The Impact Analysis looks at ONLY the "Red" and "Blue" scenarios outlined in the landscape plans tables and then assumes that all extra trees required in these scenarios can not be planted onto the parcels of land. The analysis then converts those extra TDU requirements into mitigation credits where 1 TDU = $725 (i.e. 1 TDU = 4" caliper tree) and multiply the mitigation cost by the total number of TDUs that could not be planted onto the parcel of land. The analysis then pulls from whatever publicly available record of cost assessment of these three projects* to estimate the overall impact these mitigation cost would have on the business projects. The attached excel spreadsheet contains a programmed table which allows you to plug-n-play variables to analyze different scenarios.

**Publicly available records of cost were not easily accessible and the project cost estimates we found and used were clearly much lower than the actual total business cost of the project. So, the impact analysis provided in this document is very likely significantly inflated.*

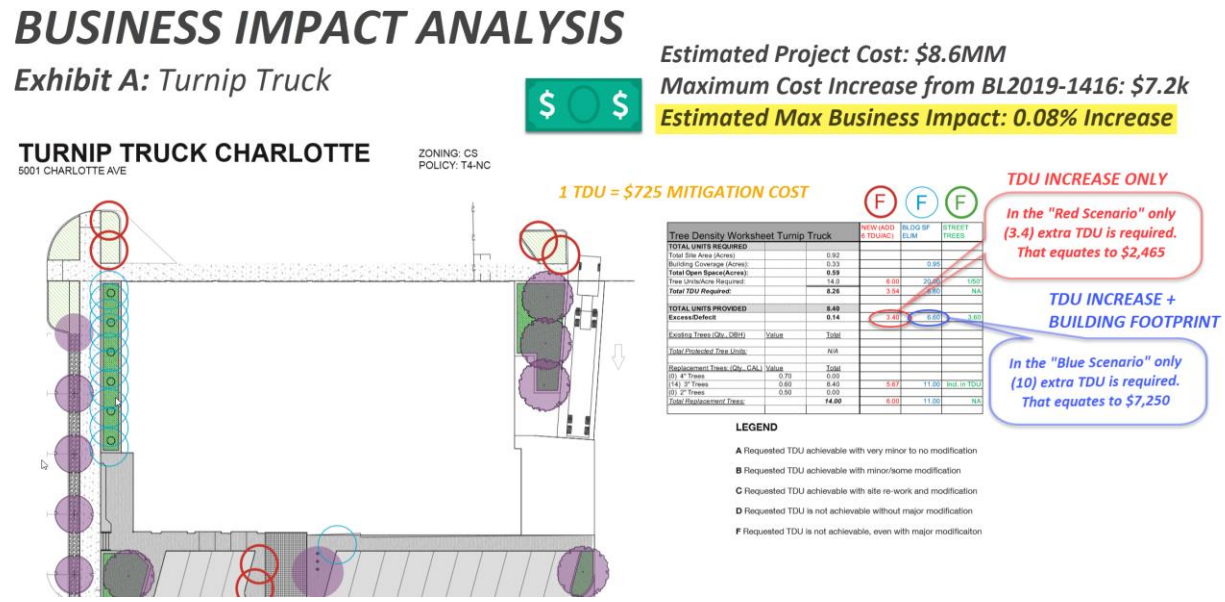


Figure 7 - Exhibit A

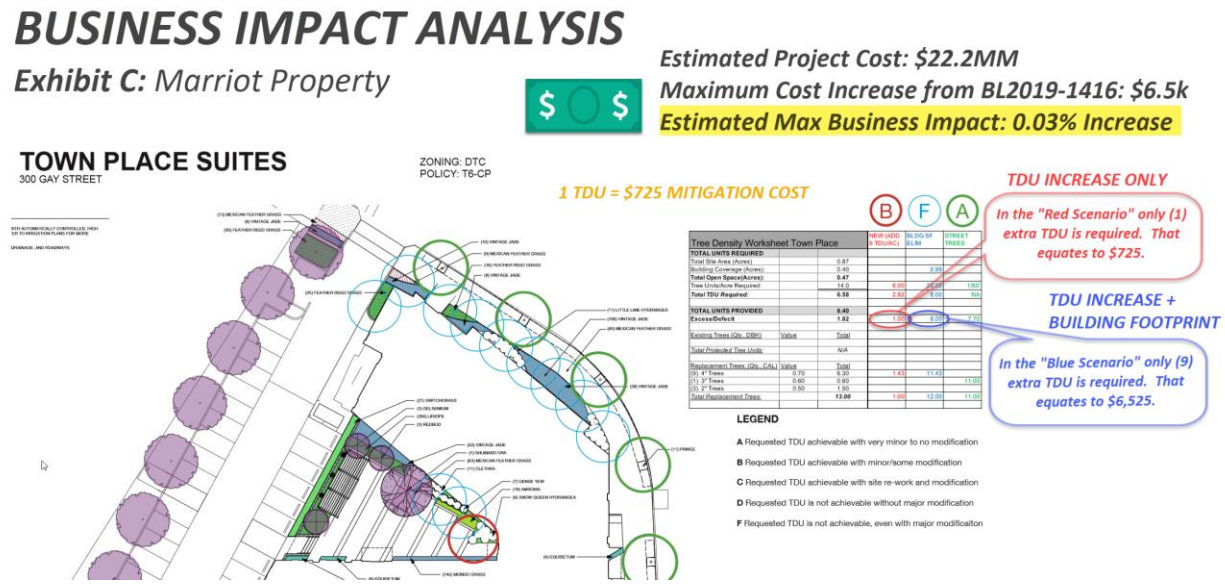


Figure 8 - Exhibit C

Existing Tree Code Application – Field Study

Provides a visual and comparative analysis of Nashville's existing tree code.

Tree Code Topic and Analysis:

STREET TREES

- **STREET TREES:** There are no requirements for street trees along building frontage or sidewalks, per 17.24.040, which is a significant missing piece in our current code, when compared to peer cities. The code should be revised to require street trees along all streets in all zoning (excluding single family residential) at a minimum spacing of one tree per 30 feet of frontage (or variable measurement by tree size type). Canopy trees should be mandatory, except where overhead lines are present. Irrigation is not currently required but should be required for all trees in tree pits.
    - Franklin, TN requires street trees along both sides of all public streets for every type of zoning, excluding alleys and rural zoned areas. Street tree spacing varies between 25-50 feet on center depending on mature tree size. Large canopy trees are mandatory except in cases of overhead utilities. (Subsection 5.4.8). Irrigation is mandatory if tree pits are utilized.
    - Murfreesboro, TN requires street trees along both sides of all public streets in commercial zoned developments. Street tree spacing is 50 feet on center. Large canopy trees are mandatory except in medians. Minimum tree size is 3-inch caliper.
    - Memphis, TN requires street trees along both sides of all public streets in most zoning classifications. Street tree spacing is 40 feet on center for canopy trees, 30 feet on center for understory (where utility conflicts are present).

- **STREET TREES AT PARKING AREAS:** Street trees are required where parking areas abut public streets, however, spacing minimum is one tree for every 30 feet or 50 feet of frontage, depending on zoning (17.24.150.C). Spacing minimum should be revised to one tree per 30 feet of frontage.
    - Franklin, TN utilizes 40-foot spacing and requires trees to be a minimum of 12-feet tall in this area. Canopy trees are mandatory except in cases of overhead utilities. (Subsection 5.4.5)

- **PARKING AREAS:** have special requirements including perimeter and interior planting requirements (17.24.130). It's unclear if these requirements supersede the tree density requirements; the code needs to be clarified in this area. Interior planting requires one tree for every 15 parking spaces, which appears inadequate. This section should be reviewed to comply with the newly drafted street tree standards to ensure adequate root zone area is provided.

Also recommend overhauling parking area tree requirements to be based on percentage of shade and not the number of trees.

- **PROHIBITED TREE LIST:** requires public hearing and Beautification and Environment Commission approval (17.24.120). The public hearing requirement appears overly burdensome and should be revised. The new code should clarify procedures for implementation and update of the recommended and prohibited tree list. Recommend regular update (2 years?) and approval at the MTAC, BEC level. The code is currently vague and appears to allow the Codes Urban Forester to unilaterally decide approved tree species without consensus from MTAC or BEC.

- **RESIDENTIAL LOTS:** The requirement of planting of trees on individual residential lots (17.24.100) is vague and should be clarified to state that these requirements apply to all residential development on existing platted lots (infill) as well. Need to clarify if tree density units dictate number of trees or if frontage dictates number of trees required. Requirements should be adjusted to increase number of required trees on each lot. Also, canopy trees should be required except where there are conflicts.

- **RESIDENTIAL LOTS:** current requirement is one tree for every 30 feet of "lot frontage". Change code verbiage "frontage" to clearly define frontage as 'Front Setback' frontage. This has been the source of much confusion. (17.24.100).

  A perplexing situation has developed due to recent infill development. Codes director Herbert is interested in defining what to do when a second dwelling is build on a lot single family lot facing the side setback on a corner lot. Essentially the side frontage now becomes 'frontage' for the new house, but legally the property is one lot. This will require further discussion and legal advice.

  - Franklin, TN has a table of tree requirements based on lot acreage. For lots less than 10,000 SF, 6-inch caliper of trees is required on the lot (i.e. three trees of 2-inch caliper).
  - Murfreesboro, TN requires 4-inch caliper of trees per lot.

- **CLEAR CUTTING:** Nashville does not require minimum tree canopy retention standards for wooded tracts. Nashville should implement this method to protect large wooded tracts, like Franklin, TN.
  - Franklin, TN requires mandatory forested tree retention areas to remain on site, based upon a table. For example, if the property is currently 80% forested, the property must remain 12-30% forested, depending on zoning of the property, after development. (Subsection 5.2.4). This is mandatory for all properties.

- **LANDSCAPE BONDING:** Nashville does not require landscape maintenance bond. Consider this as a new requirement.
  - Murfreesboro, TN requires a landscape maintenance bond. "All landscape site plans approved by the City of Murfreesboro Planning Commission or administratively

approved after September 8, 2000 require a 3-year landscape maintenance bond to be submitted prior to issuance of the final Certificate of Occupancy. Your site must be inspected and approved by the City of Murfreesboro Urban Environmental Department before you submit the 3-year bond."

- Chattanooga, TN requires a performance bond for landscaping.

- **ARBORIST:** Section **2.104.070 – Permitting of Arborist** is not being enforced. Enforcement is needed to reduce tree topping and other bad practices.

- **TREE BANK:** Increase TDU value and set price for a two-inch caliper tree for payment in-lieu to meet Tree Replacement (17.24.100 B,2.a.) ordnance requirements when it is not feasible to plant trees. Suggested $350. (tree, materials, labor and one-year watering)

- **TREE DENSITY:** Proposed increase from 14 to 20 TDU

  Tree density requirements for Nashville and peer cities.

  - Franklin, TN requires a minimum of 103 caliper-inches/acre, double that of Nashville. Of this total, 82 caliper-inches per acre must be canopy trees and 21 caliper-inches/acre must be understory trees. (Subsection 5.4.4).
  - Murfreesboro, TN requires a similar tree density as Nashville, 60 caliper-inches/acre, however, there is **no deduction of building footprint** when calculating required trees. For example, a 10,000 SF lot with a 5,000 SF building would require tree density based upon the 10,000 SF property boundaries. In effect, Murfreesboro requires many more trees than Nashville.
  - Nashville currently requires 56 caliper-inches/acre, **building footprint is deducted**.
  - Nashville's new proposal would require 80 caliper-inches/acre, building footprint not to be deducted.
  - Murfreesboro, TN requires the following mix of tree sizes: minimum 10% of trees to be 4" caliper, 15% of trees to be 3" caliper.
  - Franklin, TN permits enhanced crediting (1.25% DBH) for exiting, mature trees to remain onsite to further incentivize tree preservation (Subsection 5.4.4).

Comparative Case Studies of Tree Density – Commercial/Multifamily/Etc. Tree Code:

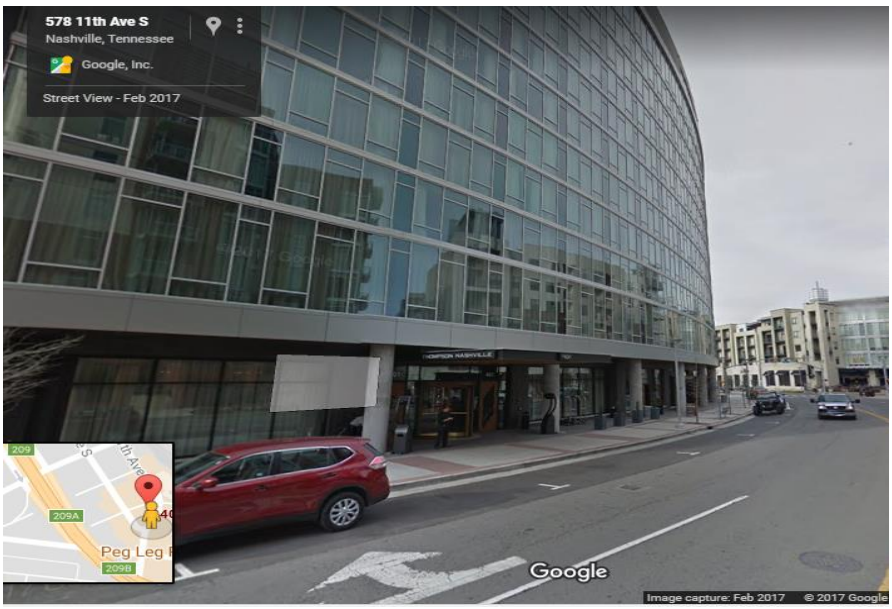
- 801 Main ST, Nashville, TN

  - Stats: residential condo building, corner lot, 195 of sidewalk frontage, no overhead utilities, acreage of lot = 0.19, acreage of building = 0.07 acres
  - **Trees required in Nashville:**
    - **Current Code of 14 TDU:** 4 trees
    - **Proposed 20 TDU WITHOUT Building Footprint Exemption:** 8 trees. PREFERRED ALTERNATIVE
    - **Proposed 20 TDU WITH building footprint exemption:** 5 trees. **THIS PROPOSAL ONLY RESULTS IN ONE ADDITIONAL TREE**
  - **Trees required in Franklin:** 8 trees
  - **Trees required in Murfreesboro:** 5 trees
  - **Trees required in Memphis:** 5 trees

Proposed changes ADDITIONAL COST:
20 TDU= 8
14 TDU =4
Additional Trees= 4 x $200 (avg cost to contractor for 2" tree) $800

Comparative Case Studies of Tree Density – Commercial/Multifamily/Etc. Tree Code:

- 401 11TH AVE S, Nashville, TN (Thompson Hotel in the Gulch)



  - Stats: hotel, corner lot, 560 feet of sidewalk frontage, no overhead utilities, acreage of lot = 0.64, acreage of building = 0.46 acres
  - **Trees required in Nashville:**
    - **Current Code of 14 TDU + Downtown Code:** 18 trees (6 trees anywhere on lot plus 12 trees along street)
    - **Proposed 20 TDU WITHOUT Building Footprint Exemption and WITH Street Trees Counted:** 26 trees **PREFERRED ALTERNATIVE**
    - **Proposed 20 TDU WITH building footprint exemption and WITH Street Trees Counted:** 12 trees. **THIS PROPOSAL REDUCES TREE REQUIREMENT FROM CURRENT CODE AND IS LOWER THAN ALL NEARBY CITIES!**
  - **Trees required in Franklin:** 19 two-inch caliper trees
  - **Trees required in Murfreesboro:** 16 trees
  - **Trees required in Memphis:** 14 trees

Proposed changes ADDITIONAL COST:
20 TDU= 26
14 TDU =6
Additional Trees= 20 x $200 (avg cost to contractor for 2" tree) $4,000

Comparative Case Studies of Tree Density – Commercial/Multifamily/Etc. Tree Code:

- 200 S 10th ST, Nashville, TN

  - Stats: residential townhomes, corner lot, 366 feet of sidewalk frontage, overhead utilities along 200 feet of frontage, no overhead utilities along 166 feet of frontage, acreage of lot = 0.54, acreage of building = 0.26 acres
  - **Trees required in Nashville:**
    - **Current Code of 14 TDU:** 8 trees
    - **Proposed 20 TDU WITHOUT Building Footprint Exemption:** 22 trees. PREFERRED ALTERNATIVE
    - **Proposed 20 TDU WITH building footprint exemption:** 12 trees. **THIS PROPOSAL ONLY RESULTS IN FOUR ADDITIONAL TREES AND IS LOWER THAN MOST NEARBY CITIES.**
  - **Trees required in Franklin:** 15 trees
  - **Trees required in Murfreesboro:** 14 trees
  - **Trees required in Memphis:** 7 trees along sidewalk + additional trees for required buffers

Proposed changes ADDITIONAL COST:
20 TDU= 22
14 TDU =8
Additional Trees= 14 x $200 (avg cost to contractor for 2" tree) $2,800

Comparative Case Studies of Tree Density – Commercial/Multifamily/Etc. Tree Code:

- 825 3rd AVE S, Nashville, TN


  - Stats: commercial storage unit building, 183 feet of frontage along sidewalk, acreage of lot = 0.57, acreage of building = 0.35 acres
  - **Trees required in Nashville:**
    - **Current Code of 14 TDU + Downtown Code:** 11 trees (7 trees anywhere on lot plus 4 trees along street)
    - **Proposed 20 TDU WITHOUT Building Footprint Exemption and WITH Street Trees Counted:** 23 trees **PREFERRED ALTERNATIVE**
    - **Proposed 20 TDU WITH Building Footprint Exemption and WITH Street Trees Counted:** 9 trees. **THIS PROPOSAL REDUCES TREE REQUIREMENT FROM CURRENT CODE AND IS LOWER THAN ALL NEARBY CITIES!**
  - **Trees required in Franklin:** 12 trees
  - **Trees required in Murfreesboro:** 18 trees
  - **Trees required in Memphis:** 7 trees along sidewalk + additional trees for required buffers.

Proposed changes ADDITIONAL COST:
20 TDU= 23
14 TDU =7
Additional Trees= 16 x $200 (avg cost to contractor for 2" tree) $3,200