

**Evolve Workshop
Residential Team Recommendations**

Overview

The team evaluated multiple sites for R3B and/or R3C and R4C residential zoning types along with a site under RM1B, the least dense multifamily zoning, to determine feasibility, unit yield & cost impacts of v3 code requirements, both zoning and non-zoning. A site plan and pro forma were applied to each site. Lot size is an important factor for residential scale zones. 50' x 125' lots are the most common in central Austin, and most lots are less than 7000sf. The sites selected are larger than 7000sf, however, and would allow at least a duplex under today's code.

R3 & R4 Sites: A series of incrementally larger residential lots in various neighborhoods were chosen to better understand the impact of the code with different lot sizes and at different price points.

2215 Willow St. 78702 - 50' x 140.5' 7025sf corner lot with alley access, E. Cesar Chavez

1906 Hether St. 78704 - 51' x 162' 8262sf interior lot, Zilker

5606 Jeff Davis Ave. 78756 - 50' x 194', 9700sf interior lot, Brentwood

4800 West Wind Tr. 78745 - 100' x 125' 12500sf – larger corner lot, south of Ben White

RM1B Site: Corridors are an important part of the Imagine Austin plan. The RM1B site is immediately adjacent to the Burnet Rd corridor and functions as a transition into the neighborhood today, with an existing 4-plex on site.

5501-5505 Lynnwood St. 78756 - three lots directly behind Burnet Rd corridor tract

Lot 1 5505 Lynnwood - 60' x 153', 9076sf, existing 4 plex on site

Lot 2 5503 Lynnwood - 61' x 153' 9128sf, aggregated with lot 1

Lot 3 5501 Lynnwood - 60'x160' 9120sf, aggregated with lots 1 & 2, triggers compatibility on one side

KEY FINDINGS:

(findings in bold are considered major impacts)

R3 & R4 Zones

CodeNext v3 regulations that increase unit yields in subject zonings and are important to preserve:

- **Duplexes:** Reduced duplex regulations make this building type more flexible and adaptable to existing conditions (23-4E-6170)
- **ADU's:** Attached and detached additional dwelling units are treated the same under v3, allowing more flexibility and encouraging use.

- **Residential Lot Sizes:** Reduced minimum lot sizes allow more efficient use of land while reducing the non-conforming existing lot count. Homes in new developments across the city will become more affordable with lot sizes down to 2500sf. Small lots are also an important infill tool, but there are concerns about new non-zoning requirements with re-subdivisions (see Utilities).

Despite the above, unit yield and feasibility were reduced more than expected under both R3 and R4 after zoning and non-zoning codes were applied to the subject sites, particularly as lot size decreased. Reductions in unit yield and/or unit size (FAR) are noted on the site plans and in the pro formas. The factors below were identified as most impactful on capacity, feasibility and cost per unit:

1. **Parking regulations** on R3 and R4 unit sites made it difficult to meet minimum parking requirements (one space per unit), much less market parking, currently two spaces for residential building types, when combined with protected trees, height limits, impervious cover and other regulations. There is a clear conflict between the need for off street parking and the the additional regulations for residential on site parking in v3. Economic feasibility is directly impacted by parking.
 - a. **Solution:** Eliminate non-essential parking regulations and add flexibility to better balance these elements or unit yield will be reduced, particularly on smaller lots.
 - b. **Solution:** Remove the 40% Front Yard impervious cover limit and the requirement for all spaces to be paved. It is overly prescriptive, does not alter the total impervious cover limit on the site and targets low income/high occupancy tenants.
 - c. **Solution: Relevant codes and rules regarding turn arounds should be evaluated and adjusted to allow flexibility for residential scale lots, as they could be a significant limiter of unit yield.**
 - d. **Solution: Increase height rules to allow three stories to allow for parking underneath.**
 - e. **Solution:** Do not require parking from alley. Required alley parking turned out to offset many of the site planning advantages of alley parking, and it conflicts with existing and proposed codes and policies.
 - f. **Solution:** Set the rear setback on an alley to a minimum of 24' combined width of alley plus rear setback or 5', whichever is greater.
 - g. **Solution:** Delete the 10' maximum driveway/curb cut width if there is only one curb cut on an interior lot, to allow shared driveways and allow R3 and R4 the same driveways as R2 zoning.
 - h. **Solution:** Allow two 10' maximum curb cuts per interior lot for three units and above. This is the most efficient way to park multiple units off street.
 - i. **Solution: Corner lots should be exempted from all driveway/curb cut limits to optimize use of ROW.**

2. **Protected trees** have the most pervasive impact on unit yields because they impact so many different codes along with utilities. Multiple units on a site have less flexibility and less area available to accommodate a protected tree than a large single home or a duplex.

a. **Solution:** More flexibility in residential zoning and non-zoning regulations must be incorporated to accommodate protected trees without making a Board of Adjustment variance routine.

b. **Solution: Allow city arborist to administratively approve variances to the following:**

- Front, side and rear setbacks while maintaining appropriate fire ratings for structures inside them (common Board of Adjustment variance)
- All setbacks between buildings (where required)
- All articulation requirements
- All zoning parking requirements
- Height
- FAR - nominal increase in FAR (up to .5 additional) to offset limits to unit size and site plan due to tree locations (2215 Willow lost significant FAR due to protected trees)
- Other non-zoning regulations, criteria manual requirements or utility provider requirements that could be modified slightly to protect the trees without impacting public safety.
- Establish a hierarchy of code to better identify which codes should have priority over tree protection, both on site and in adjacent Right Of Way.

Without making these variances administrative, there is a real risk that many protected trees under these zonings will be subject to removal for reasonable use and heritage tree sites would always require a Board of Adjustment variance.

3. **McMansion rules**, such as the height limit of 22' to top plate on all 4 sides, a more restrictive version of the McMansion tent, were not intended for use on multi unit sites. The 22' top plate height limit results in a maximum of two stories, with corresponding negative impacts on impervious cover, unit yields and parking in both R3 and R4 zones.

a. **Solution:** Simplify McMansion rules to allow more flexibility. Height is the most efficient way to minimize impervious cover on site and to increase unit yield cost effectively.

b. **Solution: Develop a McMansion based height limit that maintains the streetscape while allowing enough flexibility to reduce review times and address drainage. This was identified as the subject of a follow up meeting with staff and consultants.**

c. **Solution:** Simplify the code by making all max height limits the same height, not 32' for some and 35' for others.

d. **Solution:** Articulation reduces multi unit site yield and causes drainage problems. Remove the articulation requirement for multi unit sites.

- e. **Solution:** Interior adjacent R3 and R4 lots (ex. R4 lot in between R4's) should not be subject to McMansion type restrictions, including articulation. McMansion restrictions should be "triggered" when next to R2 zoning to maintain massing and scale to adjacent existing homes.
 - f. **Solution:** Increase the exempted net building footprint for sites with multiple units.
4. **"No Negative Impact" drainage letter** for every new home and addition incurs a high cost per unit along with liability and enforcement concerns. Estimated cost is \$5000 for the letter and \$3000 for required work for every new home or addition permit.
- a. **Solution:** Better define the scope of the problem and what would trigger the need for enforcement instead of a requiring an expensive city wide solution for a localized problem.
 - b. **Solution:** Define specifications relative to scope of problem, both on site and adjacent. Consider the cost to plan, review, install and inspect to these specifications, for both owner and city.
 - c. **Solution: Evaluate alternatives via existing code compliance processes rather than requiring a significant expense on every permit, even if drainage is not an issue.**
5. **Impervious cover limit of 45%**, used for decades for one or two units per lot, is inadequate to accommodate the all of the combined zoning and non-zoning requirements without reducing unit yields in R3 and R4, particularly on common lot sizes.
- a. **Solution: Modify or eliminate codes or rules that add impervious cover without increasing unit yield.**
 - b. **Solution:** Find incentives for saying under 40% impervious cover, such as fee waivers, but difficult to enforce.
 - c. **Solution: Find more ways to offset impervious cover on site, such as increased height, pervious concrete and green stormwater infrastructure methods.**
 - d. **Solution: Allow approved watershed protection measures on site for more than 45% impervious cover without triggering a full site plan.**
 - e. **Solution:** Provide more required porch and stoop options with more flexibility to maintain character and articulation:
 - 1. Allow more than ½ encroachment by a structure with porch.
 - 2. Change the required dimensions to a net area. (trees, etc.)
 - 3. Remove "furniture area" and "walkway" provisions so multiple units can share a porch. Visitability requirements already provide the "walkway"
 - 4. Exempt porch and stoop encroachment from front yard impervious cover calculation and site impervious cover calculation to minimize impact on unit yield.
 - 5. Allow habitable space above porch or stoop (unclear if allowed)
 - 6. Remove any maximums (stoop has a maximum)

7. Allow stoops under all zonings due to impervious cover limits and cost concerns.

Smaller lots will choose to go with fewer units than zoning allows because of impervious cover limitations on design & parking. Third or fourth units will often not be market feasible due to the high cost per unit of small units, limitations on impervious cover and while two cars per unit remain the market standard.

6. **AHBP density bonus** “unlocks” the potential for unit creation on a site, but other zoning and non-zoning codes make them infeasible on residential tracts, and they are not present in most residential zones.
 - a. **Solution:** Include bonuses for all residential zones. As the subject site plans demonstrated, zoning restrictions other than units per acre often limit unit yields just as effectively. Bonuses do not have to add extra units to increase unit yields on site. **Bonus height and bonus FAR will generate more bonus units at every density level.** Height, along with FAR and parking restrictions, limits units almost as effectively as impervious cover.
 - b. **Solution: Increase the “no site plan” unit limit to match the bonus. Triggering a site plan for one affordable unit will prevent use of bonus. This a very effective way to increase both market and income restricted unit production on existing residential scale lots city-wide.**
 - c. **Solution:** Increase the bonus units beyond current levels to offset the site plan cost and requirements (limited effectiveness without accompanying height and FAR bonuses)
 - d. **Solution:** Fee in-Lieu should be based on value created by bonus, not cost of construction. See pro forma for feasibility calculations based on the Fregonese model.

7. **Site Plan Requirements:** V3 does not require a site plan for less than 6 units AND for 45% or less impervious cover. The 45% impervious cover limit used for one and two-family lots for years, limited multi unit capacity on subject sites when the various regulations were applied, even in RM1B. RM1B allows fewer units than R4 on most residential lots (18 units/acre = 3 units on 9000sf) but it has a 60% impervious cover limit and more flexible regulations. Three units in RM1B would require a site plan if over 45% IC. More than three units can be built under the RM1B density bonus, but, as demonstrated on R3 and R4 sites, more units need more impervious cover, triggering a site plan again. A site plan effectively kills the bonus potential on residential lots due to high cost (\$50,000) and added approval time (1 year) on all but the most expensive sites. The 45% impervious cover limit for “Residential Heavy” permits preserves the same site plan barrier to residential scale units in RM1B that exists in the code today, with particular impact on less expensive tracts.

- a. **Solution: Provide a way to increase environmental protections with increased impervious cover in order to use the density bonus without triggering a full site plan.**
- 8. **Utilities** conflict with each other, protected trees and other zoning and non-zoning regulations when multiple units are on site. What do other municipalities do to solve this problem?
 - a. **Solution:** Coordinate departments and utility providers to update codes, policies and procedures relating to utilities to utilize R3, R4 and RM1B zones and their related density bonuses to capacity, establishing a hierarchy to resolve conflicts without preventing redevelopment.
 - b. **Solution:** Departments, Utility Providers and stakeholders should test each workshop site for utility placement and identify possible conflicts and solutions.
 - c. **Solution: Allow Unified Development Agreements (UDA) for residential tracts to facilitate utility placement and preserve trees.**
 - d. **Solution: Allow all utility lines under driveways on all lots in all subject zones.**
 - e. **Solution:** Switch to residential IRC plumbing code from UPC (current adopted code). IRC allows more flexible yard line placement and saves \$500 per house in plumbing costs.
 - f. **Solution:** Find alternatives to Type 2 fire lanes on flag lots or flag lots will only be feasible for luxury homes, further exacerbating our affordability crisis.

9. **RM1B Transition Zone Conclusions:**

Site plans are a huge obstacle on RM1B lots under v3, just like they are today. Triggering a site plan is the biggest single limiter of RM1B feasibility on small sites like these, as there are already considerable fixed costs for development. Under the current code, small sites voluntarily reduce unit yield to avoid high cost of site plan and pond, or simply choose not to develop until cost can be passed on.

- a. **Solution: Identify areas under “Residential Heavy” regulations that limit unit capacity to 6 or less.**
- b. **Solution: Create zones and/or density bonuses that correspond to the “residential heavy” unit limit to simplify the process while incentivizing unit creation.**

The 45% impervious cover limit was shown to be inadequate for R3 and R4 unit yields. The 45% impervious cover limit for “Residential Heavy” permits in RM1B effectively kills the density bonus on both individual lots and aggregations less than 1 acre, as the additional units require more than 45% impervious cover, making density bonus units just as unlikely to be built in transition zones under v3 as under today’s code.

- a. **Solution: Maintain environmental protections and reduce review time and costs while allowing development to capacity by creating a “Residential Heavy-Watershed Protection” permit with full watershed protection review**

without full site plan review to allow more than 45% impervious cover on R3, R4 and RM1B sites less than 1 acre.

On site ponds, either detention or detention & water quality, have an inordinately large impact sites less than 1 acre, limiting unit yield due to loss of buildable area and raising costs beyond feasibility, particularly with 100% greenfield detention requirements. The new smaller residential lot sizes are offset by the larger pond sizes, for example, making small lot re-subdivisions and site plans even less feasible under v3 than they are today.

- a. **Solution: Allow on site green stormwater infrastructure to further reduce pond sizes while maintaining environmental protections.**
- b. **Solution: Allow payment for proportionate off site stormwater system improvements in watershed (versus RSMP) for all sites less than one acre.**

A Water Quality pond would be required on every site, small or large, in a suburban watershed with a site plan. Lower suburban unit prices combined with the additional \$100,000+ cost of a water quality pond combined with \$50,000 site plan cost and 12 month site plan approval delay renders almost any suburban tract of this size infeasible to develop.

- a. **Solution: Allow Water Quality Fee in-Lieu for all tracts less than one acre city-wide.**

Sites 60' wide and under should be assumed to be undevelopable if subject to compatibility on either side, as they are under current code.

- a. **Solution: Exempt sites with no site plan required from compatibility or develop different compatibility standards for residential scale transition zonings, like RM1B, to allow these tracts to be developed.**
- b. **Solution: Include McMansion type regulations for RM tracts as an alternative to compatibility, like current code.**

Residential Team Analysis:

Parking:

- Minimum parking was often all that could be achieved, particularly with protected trees on site. Without more transportation options, residential scale market parking is currently two spaces per unit. Minimum parking is not market parking, and parking directly impacts feasibility.
- Lack of adequate parking for additional units provides an economic incentive to reduce unit counts while increasing the price and cost per unit. Cost per square foot for four units are much higher than for two of the same size, but it's the same amount of parking either way.
- Side by side parking structures have been essentially written out of the code, despite their efficient use of impervious cover. Two car garages for more than a single family home are not possible on the vast majority of residential lots under R3 and R4 when combined with the other requirements.
- Parking for 3 or 4 units takes up more area and impervious cover than parking for 2 units, yet the zoning regulations are generally the same for R2, R3 and R4, biasing toward fewer units, regardless of zoning.
- **Parking space minimums in v3 turned out to be more like maximums for unit capacity on lots over 7000 sf under R3 and for R4 lots under 10,000 sf.**
- **40% Front yard impervious cover limit was not enough for more than a single driveway on a 50' lot, as shown in the diagram, regardless of unit count. This is highly restrictive, adds \$1000 in additional design and survey work to comply, and would cause routine Board of Adjustment variance requests (tree in back or side forces parking to front) and code compliance calls. Visitability also requires additional front yard impervious cover that must be accounted for, and all parking spaces are now required to be paved.**
 - **Solution:** Remove the 40% Front Yard impervious cover limit and the requirement for all spaces to be paved. It is overly prescriptive and does not alter the total impervious cover limit on the site.
- No required parking spaces in front setback, combined with 40% impervious cover limit in front yard, combined with both parking spaces and parking structures, like carports and garages, required to be behind the front building façade, combined with limited garage widths, combined with limited curb cuts and 10' curb cut widths force parking to the rear of the main structure down a long narrow driveway.

- This long narrow driveway costs impervious cover and has to be shared between three or four different units. Will this require a shared driveway agreement or JUAE and the associated approvals and expense?
- It is difficult to accommodate protected trees alongside the driveway without reducing parking counts, unit counts and/or unit sizes, depending on lot size and tree placement. There is the potential for reasonable use removal or routine variance requests for protected trees and driveways.
- **Once past the main structure, we encountered problems accommodating a 24' turn around radius. A single tree or articulation takes it below 24'. The city's 50' lots were not platted for side entry parking, in front or in back, nor are there many alleys, but the code is written for side entry garages in back, turnarounds and alley access.**

Solution: Relevant codes and rules regarding turn arounds should be evaluated and adjusted to allow flexibility for residential scale lots, as they could be a significant limiter of unit yield.

Parking Solutions:

- Consider a bonus to incentivize building only the minimum required parking spaces on site with maximum unit yield, such as additional FAR.
- Remove the front yard impervious cover requirement, as it adds complexity and cost while impacting low income tenants (in highest occupancy rentals) the most.
- **Increase height rules to allow three stories to allow for parking underneath.**

Required parking from an alley triggered significant problems on site:

- 2215 Willow has three sides Right Of Way but was required to only park off of the alley.
- 3 or 4 units on site requires too many spaces to park them all from an alley, corner lot or not. (3 units/4-6 spaces, 4 units/6-8 spaces).
- In v3, the HOMEOWNER WOULD BE REQUIRED TO PAY TO PAVE THE ALLEY per staff, just like current code. This has a major negative impact on feasibility. Combined with required parking from alley, this effectively prevents any redevelopment on unpaved alleys until prices increase to the point that paving the alley was justified. How frequently are alleys paved by homeowners today?
- Every existing street with an alley behind already has front yard curb cuts. What is the issue with front yard curb cuts under v3, and would they have to be removed for a remodel or new build? It would be complex to administer and costly to remove.
- Protected trees exacerbate the problem because they tend to be at the rear and along lot boundaries. There is clearly a code conflict between trees and required parking on alley.

- Required alley parking would also routinely trigger variance requests as a result of the above.

- **V3 increases the alley setback from 5' to 10' - this costs both units (lost additional dwelling unit on 2215 Willow) and site area where it's most needed for unit creation. Why was this increased?**

Solution: For enough room to back out, set the rear setback on an alley to a minimum of 24' combined width of alley plus rear setback or 5', whichever is greater.

- **Rear unit additional dwelling units and duplexes are almost always parked from an alley today EXCEPT when required to pave the alley (cost is too high), There is already an incentive to park from an alley when adding units, and this built in incentive increases as unit counts increase, because it's more efficient for impervious cover and parking to site plan with an alley, but not if all of the parking must be parked from it.**

Solution:

Do not require alley parking for all units. Required alley parking turned out to offset many of the site planning advantages of alley parking, and it conflicts with existing and proposed codes and policies.

10' maximum driveway curb cut: This restriction is hazardous for multi-unit shared one car driveways. It adds complexity to a site plan where flexibility is needed.

- Trees in the front yard will block driveway access to parking from the 10' curb cut, requiring removal. Protected trees are prevalent in front yards.
- Why is the current City of Austin curb cut minimum 12'?
- Where is the 10' maximum width found in other cities?
- This restriction conflicts with commonly used shared driveways between lots, often 20'-25' wide, that are very efficient for multi unit sites.
- What about the 25' fire lane when required? 25' driveway would be okay for fire, but not for residents?
- What is the intent of this regulation? Are there alternatives?
- Makes two car driveways illegal/non-conforming in R3 and R4 zones, but not in R2 and lower, yet these zones are intended for the same neighborhoods.
- Site planning for 4-8 cars becomes difficult, trees or not.

Solution:

- Delete the 10' maximum if there is only one curb cut on an interior lot, to encourage shared driveways and allow R3 and R4 the same two car driveway as R2 zoning.

- Allow two 10' maximum curb cuts per interior lot for three UNITS and above in a given zoning. This is the most efficient way to park multiple units off street.
- **Corner lots should be exempted from all driveway/curb cut limits to optimize use of ROW.** For example, there is no difference between 4 curb cuts on a long corner lot and two curb cuts on two smaller lots after resubdivision, which is allowed today.

Parking Conclusion: The complexity and limitations imposed by R3 & R4 parking regulations combined with other zoning and non zoning regulations, such as impervious cover, limit the feasibility of parking for multiple units on most lots and will result in the creation of fewer, larger units on a given lot, particularly under R4.

Protected Trees

Almost any heritage or protected tree on an R3 or R4 lot will cost parking spaces, unit size/FAR and/or unit yield due to conflicts with setbacks, required front setback encroachments, restrictions on parking structures, parking placement restrictions, the two story height limit and the 10' rear alley setback. There is simply not enough site area to work around the critical root zone while meeting all zoning and non-zoning requirements. The impact was significant on multi-unit sites and must be factored into pro forma feasibility and “underbuild” in the model.

There is a significant chance that v3 would make Board of Adjustment tree variances routine, as multiple zoning codes, criteria and utility requirements impact root zones. Protected trees are impacted the most because they can be removed for reasonable use.

Solution: Allow city arborist to administratively approve variances to the following:

- Front, side and rear setbacks with appropriate fire ratings for structures inside them (common Board of Adjustment variance)
- All setbacks between buildings (where required)
- All articulation requirements
- All zoning parking requirements
- Height
- FAR - nominal increase in FAR (up to .5 additional) to offset limits to unit size and site plan due to tree locations (2215 Willow lost significant FAR due to protected trees)
- Other non-zoning regulations, criteria manual requirements or utility provider requirements that could be modified slightly to protect the trees without impacting public safety.

- Establish a hierarchy of code to better identify which codes should have priority over tree protection, both on site and in adjacent Right Of Way.

Without making these variances administrative, there is a real risk that many protected trees under these zonings will be subject to removal for reasonable use and heritage tree sites would always require a Board of Adjustment variance to get to zoning capacity.

McMansion Rules

The McMansion Ordinance was established over a decade ago and was intended to regulate massing and address drainage for one and two units per lot, not for multi-unit construction. Its impact is significant when applied to R3 and above, and it is not clear that it has had any impact on the drainage issues it was intended to solve. Height limits and articulation requirements are known to reduce unit yield on both residential and multifamily tracts, particularly when combined with protected trees.

The R3 and R4 height limit of 22' to top plate (resulting in max two stories) is a significant reduction in height vs the current “McMansion tent” it is supposed to replace. Three stories are possible under current “tent” under SF-3, as long as the structure is away from the side lot lines. This new limitation has major impacts across zoning and non-zoning regulations, in part because height is the most efficient way to use impervious cover:

- Requiring more building coverage on the ground limits parking, FAR, and unit yield. It also adds unnecessary impervious cover, rather than reducing it.
- All homes, townhomes, duplexes and additional dwelling units built under McMansion over last ten years, all three story homes, all three story units equivalency mapped to R3 or R4, and almost every home on a sloped lot are non-compliant under v3 due to this rule.
- As written, any flat or shed type roof lines would be impossible unless the height of structure was reduced below 20'.
- Concern was expressed by participants and staff that the height of McMansion tent today (20' at side setback) has caused drainage and/or flooding problems with homes being designed and built very close to the ground. Houses must be allowed enough room for adequate grading in setbacks and enough slab height above finished grade to address grading on site and to ensure that neighboring lots are protected from flooding.
Solution: Develop a height limit that maintains the streetscape while allowing enough flexibility to reduce review times and address drainage. Height limit was identified as the subject of a follow up meeting with staff and consultants.
- Different subzonings have slightly different max heights in v3, which is confusing and a carryover from McMansion limits.
Solution: Simplify the code by making all max height limits the same height, not 32' for some and 35' for others.

Maximum height is relative, depending on how it's measured. Max height, like the McMansion tent above, is also reduced in v3 versus current code, as it is measured to top of roof in v3, not to the average of roof line as it is today. Average roof line allowed finished attics under high pitched roofs and reduced massing. The current code reduces massing while allowing a third story to be built. V3 max height, when combined with 22' top plate restriction, penalizes high pitched roofs and finished space inside the roof line rather than encouraging them.

Maximum Height Solution: Simplify max height by measuring max height above finish floor (AFF) rather than from average of finish grade. This allows appropriate room for drainage around the slab and the net result can still be lower than the average roof line under today's code. Review and surveying costs are reduced and enforcement made easier.

Articulation: As a "U" shape, articulation by its very nature causes drainage problems. **Multiple units cannot accommodate prescriptive articulation the way one and two units can under today's code.** It is arbitrary in length and difficult to design around, with or without a protected tree. There also current rules preventing the use of the articulated area outside the unit, essentially limiting it to a landscape buffer. Current code does not require articulation below 2000 sf of building coverage.

Solutions:

- Remove the articulation requirement for multi unit sites.
- Interior adjacent R3 and R4 lots (ex. R4 lot in between R4's) should not be subject to McMansion type restrictions, including articulation. McMansion restrictions should be "triggered" when next to R2 zoning to maintain massing and scale to adjacent existing homes.
- Increase the exempted net building footprint for sites with multiple units.

"No Negative Impact" Engineer's Letter

Engineer's letter serves to shift liability from homeowner to engineer, but it will not itself reduce complaints. Improved grading will reduce complaints.

- What are the most common negative impacts today?
- How frequently do they occur? On what percentage of permits?
- What do other municipalities do in this regard?
- What is the current code or ordinance that applies today?
- Cost of letter will be high, estimated at \$5,000, due to liability incurred by engineer.
- How are pre-existing adjacent property conditions to be corrected, such as ponding, inadequate fall or slab too close to grade?
- Drainage calculations on small sites are known to be less accurate.
- May increase Errors & Omissions insurance rates for engineers in Austin.

- Cost of inspection and enforcement for both city and homeowner is significant.
- Work required to prepare site for letter is estimated at \$2500-5000 for full gutters plus grading and landscaping.
- Costs will be significantly higher to modify existing landscaping for remodel/additions vs. new construction.
- Total cost of compliance may exceed \$10,000 per new home or addition. In 2016, there were about 5600 new or addition building permits issued, resulting in an estimated additional cost to homeowners of \$28,000,000 to \$56,000,000 per year.

Solution:

Better define the scope of the problem and what would trigger the need for enforcement. Define specifications relative to scope of problem, both on site and adjacent. Consider the cost to plan, review, install and inspect to these specifications, for both owner and city. Evaluate alternatives via existing code compliance processes rather than requiring a pre-emptive letter on every permit.

Impervious Cover

Impervious cover is considered a primary or core limiter of capacity on any given residential or multi family site, making efficient site plans essential to achieving the capacity of any zone. In combination with the other zoning and non-zoning regulations, however, we found that 45% impervious cover limited unit size and unit yield to accommodate parking and parking rules, the two story height limit and/or protected trees. 45% impervious cover was considered adequate for two units per lot for decades, but now is being applied to three and four units under R3 and R4, each of which requires additional impervious cover under v3, as outlined below.

Building Impervious Cover Maximum: More building is required for 3 or 4 units that are limited to two stories. Sites were not evaluated for three story units, but the two story limit clearly increased building cover impervious cover.

Zoning and non-zoning regulations must be prioritized relative to impervious cover or the outcome will be much the same as today - fewer units built relative to capacity.

Regulations that require additional impervious cover:

- Porch or stoop required for R3 & R4: Required porch is heavily prescribed with a min size of
- 8x10 (half a parking space) and must include 4x6 “furniture area” and 3’ “walkway”, etc.
- Purpose of porch was stated as adding architectural character and articulation. While these benefits of a porch are acknowledged, the added impervious cover, prescriptive rules and a cost of construction similar to the rest of the structure must also be considered, particularly on typical lot sizes.

- Smaller stoops are not allowed in some zones.
- Unclear if each unit requires a porch or stoop, further increasing impervious cover and cost and impacting unit yield due to site plan limitations (no stoop = no unit?)
- Unclear if porch encroachment is counted toward 40% front yard impervious cover limit.
- Protected trees will conflict with the porch requirement and trigger variances.

Solution: Provide more options with more flexibility to maintain character and articulation:

- Allow more than ½ encroachment by a structure with porch.
- Change the required dimensions to a net area. (trees, etc.)
- Remove “furniture area” and “walkway” provisions so multiple units can share a porch. Visitability requirements already provide the “walkway”
- Exempt porch and stoop encroachment from front yard impervious cover calculation and site impervious cover calculation to minimize impact on unit yield.
- Allow habitable space above porch or stoop (unclear if allowed)
- Remove any maximums (stoop has a maximum)
- Allow stoops under all zonings due to impervious cover limits and cost concerns.

Smaller lots will choose to go with fewer units than zoning allows because of impervious cover limitations on design & parking. Third or fourth units will often not be market feasible relative to the high cost per unit of small units combined with “inadequate” parking. Until our parking paradigm shifts and we have effective alternate transportation, two cars per unit will remain the market standard.

Solutions:

- **Find incentives for saying under 40% impervious cover, such as fee waivers, but difficult to enforce?**
- **Find more ways to offset impervious cover on site, such as increased height, pervious concrete and green stormwater infrastructure methods**
- **Allow watershed protection measures on sites with more than 45% impervious cover without triggering a full site plan.**

Density Bonuses

Density bonuses are mandatory at every level if we are to meet our city’s need for affordable housing and better transportation. 6000 affordable units per year and 17 units or jobs per acre to support Bus Rapid Transit are well established benchmarks. To hit these marks, the city of Austin will need to move substantially beyond current code capacity.

- Proper calibration of all relevant zoning and non-zoning regulations, such as height, FAR, parking and impervious cover is essential to hit 80% AHBP participation.
- 17 units per acre takes about 60% impervious cover, which is the limit for RM1B.
- Obstacles to density bonus usage:
 - Impervious cover and height limits are too low to generate additional bonus units under low density zonings. The R4C bonus, for example, wasn't feasible to site plan on any subject site due to height, parking and impervious cover limits. Eight R4C units at 45% impervious cover requires the equivalent of two large R4 lots, negating the bonus.
 - Eight units under any zoning triggers a full site plan and a host of non-zoning requirements that negatively impact feasibility and increase the cost per unit. For example, no site plan is required for less than 6 units, but R4C goes from 4 units to 8 units with the bonus. One on-site unit would trigger a site plan permit and related requirements and take one year to get it approved. It will never be feasible as a result.

Solutions:

- As the subject site plans demonstrated, zoning restrictions other than units per acre often limit unit yields just as effectively. Bonuses do not have to add extra units to increase unit yields on site. **Bonus height and bonus FAR will generate more bonus units at every density level.** Height, along with FAR and parking restrictions, limits units almost as effectively as impervious cover.
- **Increase the “no site plan” unit limit to match the bonus. No site plan, along with eliminating compatibility, is a very effective way to increase both market and income restricted unit production on existing residential scale lots city-wide.**
- **Increase the bonus units beyond current levels to offset the site plan cost and requirements (limited effectiveness without accompanying height and FAR bonuses)**
- **Fee in-Lieu should be based on value created by bonus, not cost of construction. See pro forma for feasibility calculations based on the Fregonese model.**

Utilities:

The current regulations governing utilities on site need to be reviewed for impact on sites with 3-10 units. Most of the relevant current residential regulations in these areas were intended for one or two units, not to accommodate small multi unit sites. Conflicts identified at the workshop include:

- Water and wastewater taps: meter spacing now required by TCEQ, etc.

- High cost of water/wastewater connections (\$22,000 per unit for AWU fees + private installation)
- Clearances from overhead electric lines impact unit yields, particularly on alleys
- Private lines on site to multiple units get crowded and could easily limit unit yield unless tested and relevant code revised.
- Easements
- Protected trees are under more pressure to accommodate utility lines, particularly with re-subdivisions. Site plans are more flexible for trees than small lot re-subdivisions.
- 25' wide Type 2 Fire Lane is now required for flag lots or deeper sites that require more than 150' hose lay from street/200' with sprinklers, adding an estimated \$50,000 in site cost for the driveway on any site more than 250-300' deep.
- How do other municipalities with zonings like R3, R4 and RM1B solve these conflicts?

Solutions:

- Departments, Utility Providers and stakeholders should test each site for utility placement and identify possible conflicts and solutions.
- **Allow a Unified Development Agreement (UDA) for residential tracts as well as commercial/multifamily to facilitate utility placement and preserve trees.**
- **Allow all utility lines under driveways on all lots in all subject zones.**
- Switch to residential IRC plumbing code from UPC (current adopted code). IRC allows more flexible yard line placement and saves \$500 per house in plumbing costs.
- Find alternatives to Type 2 fire lanes on flag lots or flag lots will only be feasible for luxury homes, further exacerbating our affordability crisis.

Other R3 and R4 Results:

Cottage courts could be a great new form for Austin, promoting community and smaller yet family friendly houses. In an effort to duplicate a nostalgic form, however, they are so heavily regulated in v3 that they will not be viable vs other options in code for the same size tract.

- Courtyard dimensions, parking away from units and open space criteria are extremely limiting relative to required lot size, particularly those with protected trees.
- Cottage court code seems written for alleys, but Austin does not have many. What do other municipalities do with cottage courts without alleys?
- Parking placement is a significant problem for site plan and market feasibility. Why force someone to park away from their home when there is also a common courtyard? Safety concerns were expressed at the workshop.

- Reduced minimum lot sizes in v3 allow multiple alternatives to cottage court development, such as resubdivision into two lots with three units on each (6 total) without the restrictions of cottage court.

Solutions:

- Flexibility in the code for cottage courts, such as the size/shape of the Courtyard and better parking rules, would allow this Building Type to be more adaptable to existing site conditions and more feasible in market.
- Remove prescribed dimensions from courtyard and use net area. Minimum 20' width will prevent use on 50' lots.
- Reduce the courtyard size with unit count.
- Remove the parking restrictions. They seem based on alley access, which is rare relative to corner lots, and there are safety concerns at night.
- Remove additional cottage court restrictions for corner lots.

Are two R4C Multiplex buildings allowed on one lot? This was deemed necessary to work around site conditions and trees (ex 1906 Hether - two buildings with two units each). Are three detached units allowed on an R3 lot? Detached homes are family friendly.

Solution: Allow more than one structure with more than one unit under R3 & R4 to provide flexibility to work around site constraints.

Simplify R-type zones by reducing the number of sub-zones. R4 has three zones with only a two different criteria - front yard setback and maximum building width. A 60' maximum building width is less than the buildable area of two 50' lots aggregated together, effectively codifying "underbuild" reductions and restricting unit yield.

Solution: Create only one R4 zone with the front yard setback at 15' and an 80' maximum building width. Require a 25' front setback with front setback averaging for residential density bonuses up to 4 units to maintain neighborhood streetscapes.

Single-Family Attached with Additional Dwelling Unit: There is no better example of "gentle density" under CodeNext than one additional additional dwelling unit in the same form as R2 & R3. SF-Attached is a "dead" zoning under current code because the same two attached units after a 12 month re-subdivision can be built as a duplex and sold via condo regime with a building permit.

Solution: While not appropriate applied city wide under R2, it deserves to be included in the code, even in the form of a density bonus, because of its simplicity and ease of integration into existing neighborhoods. Modeling it to demonstrate the reduced scale of four small units versus two or three large ones would help alleviate concerns about privacy and parking. Single Family

Attached additional dwelling unit size limits similar to the “Cottage” regulations in v1 would also help in this regard.

RM1B Evaluation:

At first glance, RM1B, with density equivalent to R3, seems flexible enough to reach capacity yield on a variety of sites and provide meaningful amounts of missing middle housing.

RM1B, equivalent to R3 in density, provides enough flexibility in its zoning regulations to provide meaningful amounts of missing middle housing:

- 18 units per acre
- 40 units per acre with density bonus
- Three stories
- 60% Impervious cover
- No McMansion restrictions
- No additional parking restrictions like R3 & R4
- No additional site or design restrictions like R3 & R4

5501- 5505 Lynnwood consists of three lots, each just over 9000sf and 60' wide. Site planned initially as an individual lot, then the adjacent lots were aggregated one at a time.

5505 Lynnwood - 60' x 153', 9076sf, existing 4 plex on site

5503 Lynnwood - 61' x 153' 9128sf, aggregated with 5505 Lynnwood on site plan

5501 Lynnwood - 60'x160' 9120sf, aggregated with 5503 & 5505 Lynnwood on site plan with compatibility trigger on one side

5505 Lynnwood:

- One lot, 60' x 153', 9076sf, existing 4 plex on site
- Three 2000sf townhome style units on site (max yield 3 units)
- No protected trees on site
- No compatibility trigger assumed, but individual lots are still severely restricted by compatibility in v3, much like today's code. They are undevelopable due to lack of width for vehicular access, particularly when combined with protected trees. **Sites 60' wide and under should be assumed to be undevelopable if subject to compatibility on either side.**

Solution: Exempt sites with no site plan required from compatibility or develop different compatibility standards for RM1B to allow these tracts to be developed.

- RM1B density (18 units/acre) on existing lots like those on Lynnwood is often the same or less than under R3 or R4 zoning. The existing 4-plex on 5505 Lynnwood would be non-compliant in v3 due to four units vs three allowed under RM1B. The existing impervious cover may also exceed the 60% limit. **Unit counts above those allowed in v3 zones are an incentive to preserve existing development.**

Solution: Do not penalize existing small site units (<1 acre) by tightening non-compliance language in v3 code vs current code.

- 60% impervious cover triggered full site plan (\$50,000 and 12 month delay) for three units with 100% “greenfield” detention pond as shown on site.
- RM1B units are needed city wide at every price point. The lower the price point, the more likely that development will voluntarily reduce unit yield to avoid high fixed cost of site plan and pond requirements, or simply choose not to develop.
- Pond shown on site could be modified to fit around unit footprints.
- Pond was possible on this site due to adequate fall, but concern expressed with ability to redevelop if slope were inadequate, trees in pond area, etc. Raising grade not feasible on residential scale construction today.
- Possible to get impervious cover down to 45% for no site plan, but difficult if protected trees impact buildable area or driveway access.
- **Water Quality pond would be required on this site in suburban watersheds with full site plan. Lower suburban unit prices combined with additional \$100,000+ cost of water quality pond combined with \$50,000 site plan cost and 12 month site plan approval delay renders almost any suburban tract of this size infeasible to develop.**

Solution: Allow Water Quality Fee in-Lieu for all tracts less than one acre and allow cost effective alternatives to Water Quality pond on site.

- Unit footprints for row home type units are not easy to reduce, given required driveway turn around width and parking.
- Density bonus for RM1B seems to “unlock” the potential for a variety of units on a variety of sites, similar to the small 4 to 12 unit complexes built from the 50’s to the 80’s throughout Austin that have not been built since. Density bonus units generally need 60% impervious cover, triggering full site plan even if less than 6 units and impacting feasibility as much as the cost of the bonus (fee in lieu or on site) itself.
- Smaller, stacked units trigger significant ADA/FHA requirements, such as ramps or elevators, etc.that add cost and impervious cover above 45% on small sites.
- No fire lane was required due to hose lay distance from street, but additional fire safety requirements for site need to be determined for site and pro forma.

5503-5505 Lynnwood

- Two lots, approx. 18,000 sf, 120’ frontage
- Seven 2000sf units (max yield 7 units)
- Assumed no protected trees on site but not verified
- No compatibility trigger assumed.
- Site planned to 60% impervious cover with pond and site plan permit.

- Pond area may not be able to accommodate seventh unit.
- Shared driveway might allow 45% impervious cover for 6 units.
- Shared driveway agreement required.
- **Site plan cost for 7 units is high versus 6 units without site plan. Small sites will voluntarily reduce unit yield to avoid high fixed cost of site plan and pond requirements, or simply choose not to develop until cost can be passed on. Solution: Allow “residential heavy” sites <6 units to increase impervious cover from 45% up to zoning limit by completing full Watershed Protection site plan review without triggering full site plan otherwise. This maintains environmental protections for small sites and reduces review time and cost while allowing development to capacity.**
- Heritage trees, if present in driveway area, would prevent aggregation & development due to lack of driveway access. This is a significant impact on RM1B multi unit sites must be included in underbuild in model (est -20%)
- Unified Development Agreement possibly required for utilities.
- Density bonus units would always trigger full site plan (>6 units).
- Parking would be limited with density bonus units even at 60% impervious cover.
- **Water Quality pond would be required on this site in suburban watersheds with full site plan. Lower suburban unit prices combined with additional \$100,000+ cost of water quality pond combined with \$50,000 site plan cost and 12 month site plan approval renders almost any suburban tract of this size infeasible to develop.**
- Assumes no fire lane required due to hose lay distance from street, but additional fire safety requirements for site need to be determined for site and pro forma, especially with density bonus units
- Electric overhead lines have potential to limit unit size, height or yield around corridor and transition sites but this site was able to accommodate them.

5501-5505 Lynnwood

- Three lots aggregated, 27,000+sf total, 180' frontage
- Ten 2000sf units (max 11 units)
- Detention pond area reduced unit yield on site
- Site plan required
- Assumed compatibility triggered only by tract adjacent to third lot.
- Aggregation is necessary to develop with compatibility on small sites under 1 acre. Underbuild should be adjusted accordingly, as aggregation is considered unlikely by developers (est <20% of tracts can be aggregated)
- When compatibility is triggered by a property across an alley that is less than 20 ft wide, the setback must be measured from the property line of the affected property and does not take into account the width of the alley (up to 19ft), making alley lots, which are encouraged for multi unit development in v3, less feasible to develop.
Solution: Include the width of the alley in determining the compatibility setback.

RM1B Conclusions:

Site plans are still a huge obstacle on RM1B lots under v3, just like they are today. **Triggering a site plan is the biggest single limiter of small site feasibility, as there are already considerable fixed costs for development.**

Solution: Identify areas under “Residential Heavy” regulations that can be further streamlined to increase unit limit above 6 and increase feasibility on small sites. Create a zone and density bonuses that correspond to the “residential heavy” limit of 6 units or less to match zonings with feasibility and simplify the process further while incentivizing unit creation. Sites with less than 10 units requiring a site plan will not be built except in locations with very high home prices, as can be seen under the current code.

The 45% impervious cover limit for “Residential Heavy” permits, the current code limit for one or two family home sites, was shown to be inadequate for R3 and R4 unit yields. For RM1B, the 45% impervious cover limit for “Residential Heavy” permits effectively kills the density bonus on both individual lots and aggregations less than 1 acre, making density bonus units just as unlikely to be built under v3 as under today’s code due to impervious cover alone.

Solution: Create a “Residential Heavy-Water Protection” permit with full watershed protection review to allow more than 45% impervious cover without triggering a full site plan review.

On site ponds, either detention or detention & water quality, have an inordinately large impact sites less than 1 acre, limiting unit yield due to loss of buildable area and raising costs beyond feasibility, particularly with 100% greenfield detention requirements. The new smaller lot residential sizes are offset by the larger pond sizes under v3, for example, offsetting their impact on unit yields and making small lot re-subdivisions and site plans even less feasible than they are today.

Solution: Allow payment for proportionate off site stormwater system improvements in watershed (versus RSMP) for all sites less than one acre. Allow on site green stormwater infrastructure to further reduce pond sizes while maintaining environmental protections.