

The Economics of Land Use



Draft Report

Charlotte Unified Development Ordinance Economic and Design Analysis: **Executive Summary**

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City of Charlotte

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1. Executive Summary

Background

The City of Charlotte is in the process of developing a Unified Development Ordinance (UDO) to consolidate and streamline the city's development regulations. The development of the unified development ordinance presents the opportunity to bring all development ordinances together in one cohesive ordinance and to also support the implementation of the recently adopted Charlotte Future 2040 Policy Plan and the 2040 Policy Map. Charlotte's development regulations are currently provided in eight different ordinances. There are other purposes for the UDO as well including increasing the readability and making everyday use of development regulations easier. Lastly, the City must comply with the new North Carolina 160D legislation. The outcome of the effort is to create a more predictable and consistent development process and application of regulations.

A major goal of the UDO is to translate large-scale policy into specific development outcomes. The UDO has several aims and two of the major intents which are the focus of this study.

- Promote economic development that balances the needs of the current and future economy with a high quality of life standard.
- Preserve and enhance the character of structures and communities that constitute the distinct places within the City.

Study Purpose

This study was commissioned by the City of Charlotte with the support of stakeholders in the real estate development industry to evaluate the potential economic impacts of the UDO. The study aims to identify the key regulatory components of the UDO that influence the cost and feasibility of development. To evaluate at the draft UDO two analysis were completed in concert.

- Design Analysis – Perkins and Will performed a design analysis that models the physical outcomes of the draft UDO ordinances.
- Economic Analysis – Economic & Planning Systems performed an economic analysis that identifies the economic impacts related to development feasibility issues and cost outcomes of the UDO.

The two analyses were developed to identify and consider refinements to the draft UDO prior to adoption based on their impacts to development feasibility.

Project Approach

Issue Identification

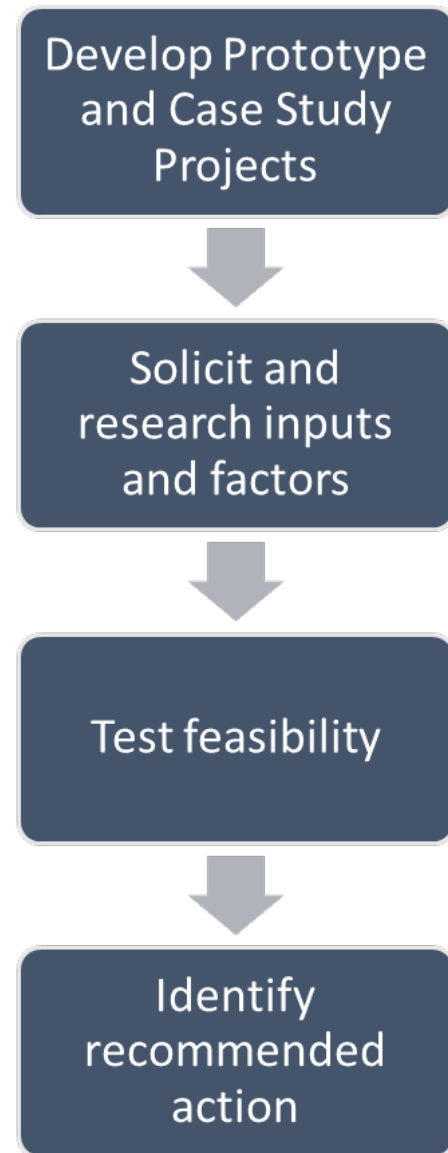
The approach to the project was to identify changes to the city's development ordinances within the draft UDO and evaluate the impacts of identified issues.

Step 1: Prototype development projects were identified through stakeholder outreach that best represented the types of projects commonly built today in Charlotte or likely to be more impacted by the draft UDO. In addition, existing or under-construction "case study" projects were also identified. The prototype projects helped explore the numerous iterations of project designs that are possible in the UDO. While the case study projects allowed for a comparison of a project built under current regulations and built under the draft UDO.

Step 2: Design and development program inputs were solicited from the stakeholder groups and supplemented through primary research and analysis. The data gathered helped to create the inputs into the design models and financial proformas evaluating the projects' feasibility.

Step 3: The prototype projects and case study projects were both evaluated using the design models and financial proforma models to identify impacts on project design and cost. All impacts were inventoried and tracked based on the type of impact, the specific regulation in the draft UDO, and the associated recommendation.

Step 4: Recommendations for actions the City should consider related to each identified impact were developed. Actions are categorized into three groups. Issues where a recommended modification was identified and agreed to by city staff were categorized as "Update." Issues where a solution was not fully developed but was worthy of additional consideration were categorized as "Continued Review." Lastly, issues identified that were deemed to not require a remedy "No Action."



Issue Testing

Each issue was evaluated using an economic analysis and a design analysis. Below are the specific topics and evaluations completed for each analysis.

Issue Testing Approach

	Design Analysis	Economic Analysis
Issue Areas	<ul style="list-style-type: none"> • Parking Requirements • Open Space Requirements • Tree Save Requirements • Development Intensity 	<ul style="list-style-type: none"> • Project efficiency • Required investments • Cost Mitigation • Design and Process Flexibility
Evaluation Types	<ul style="list-style-type: none"> • Specific Issues • Prototype Projects • Actual Projects/Sites 	<ul style="list-style-type: none"> • Project Cost • Project Value/Benefits • Return on Investment

Engagement Process

The project used the experience and expertise of over 50 stakeholders representing a broad cross-section of development industry professions and product type experience from the Charlotte development community. The stakeholders were organized into four Focus Areas which were oriented around specific types of development. A fifth Focus Group was formed to consider impacts on Affordable Housing of the draft UDO and specifically how the UDO can better support the development of affordable units. Four rounds of stakeholder meetings were held with over 20 separate meetings where issues were identified and discussed.

Focus Groups



Impact Measures

The evaluation of potential issues included considerations of both high-level and project specific impacts. High-level impacts are ones that impact the entire community while project specific impacts are ones that are specific to one project type or specific site condition. These two levels of impact have different measures that were used to evaluate them.

High-Level Impacts

One of the overarching goals of this project was to understand how the draft UDO might impact the economic health of the City of Charlotte. Three specific measures were used to gauge a project's high-level impacts.

- **Economic Value:** This measure considers the total economic value of development generated in the community. When considering the economic impact of a policy, the most common inputs are value of investment and the number jobs created. This measure assesses if any increases or decreases in the value of development will occur due to the draft UDO
- **Growth Capacity:** The second major input to an economic impact analysis is the number and types of jobs. This metric evaluates the impacts on growth capacity in the city over the next 20 years from the draft UDO. Limitations on growth capacity caused by the draft UDO (compared to the 2040 Policy Map forecasts) are deemed as a negative impact to the community for both housing and jobs.
- **Housing Cost:** Lastly, the implications of increased investment requirements for development projects were evaluated to illustrate how housing costs (prices or rental rates) may change as a result.

The overarching finding and consideration developed in the process is that the capacity or potential yield of development on a specific site or in the city is more impactful than increased costs.

Project Specific Impacts

The project specific impacts were used to develop the high-level impact findings. To measure impacts of specific projects, a wide range (both Granular and Broad) of analysis were used to measure the impact on two main components Investment and Return.

Granular Analysis

- Setbacks
- Open space dimensions
- Curb locations
- Sidewall height

Broad Analysis

- Place Type alignment
- Category comparisons
- Organizational clarity
- Intent outcome evaluation

Evaluation Parameters

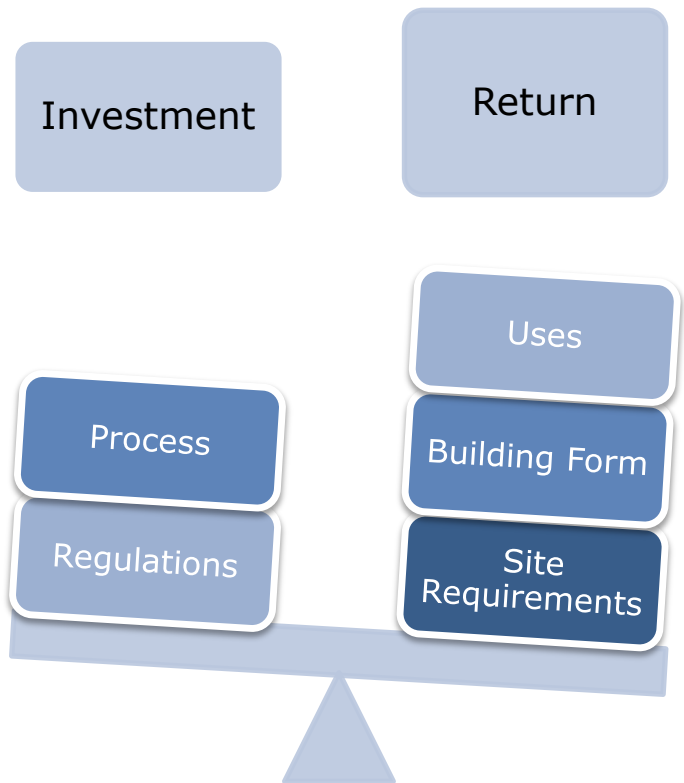
Investment:

Requirements of the draft UDO that affect the level of investment required for project development.

Return:

Evaluation of the benefits to the Development Community and to the community resulting from updated development criteria.

Balancing the requirements in terms of new investments needed to implement the community’s vision in the Comprehensive Plan with the returns for both the developer and the community (in terms of added benefits) is a major consideration. The purpose is to make sure that the required investment did not adversely impact project returns and will produce the desired community benefits the investments are aimed at creating.



For each project specific issue, the following findings were documented.

- Potential Issue: A description of the issue was developed to document the concern and areas of potential impact.
- Intent of Ordinance: Intent of the relating ordinance was evaluated to understand its purpose in context of the project.
- Feedback: Feedback from the stakeholders was documented to understand the impacts on project design, construction, and financial feasibility.
- Estimated Impact: The estimated impact on design feasibility and financial feasibility were documented for each project issue.
- Recommended Action: A recommended action(s) was provided for each issue categorized by Update, Continued Review, and No Action to illustrate what the next step for that issue is.

Major Findings

The findings of the design and economic analysis were organized within three categories: process outcomes, high-level analysis findings, and economic analysis findings.

Process Outcomes

The analysis process created value to the city and the UDO process beyond the specific findings. The process allowed for a robust and in-depth conversation to occur between the city and the development community that helped to build buy-in for the UDO. The beneficial outcomes include:

- A comprehensive tracking of comments and questions from stakeholders
- Transparency of outcomes from issues raised
- Specific recommendations for changes to the draft UDO that staff can execute
- Continued evaluation of actionable changes that may occur within the implementation of the UDO after adoption.
- Increased the clarity of language in the UDO
- Expanded flexibility of in several ordinance topic areas including open space implementation, green area implementation, and development bonuses
- Confirmation that the desired built form and project yield/intensity can be achieved
- Identification and resolution of several unintended outcomes

High-Level Analysis Findings

The high-level findings of the analysis are the most important in terms of consideration of the draft UDO for adoption. The consideration and debate of project specific impacts is likely to occur and is warranted as they require scrutiny and consideration of needed changes. At a high-level however, **EPS and Perkins and Will did not find any significant reasons to reconsider adoption of the draft UDO based on the impacts identified and the identified actions the city is incorporating into the next draft of the UDO.**

Design Analysis Findings

The design analysis identified the following high-level impacts.

- 1. The draft UDO generates development yields that are similar or provide a slight increase compared to the existing development ordinances**
- 2. The draft UDO requires greater provision of open space for most project types, however there is flexibility in implementation and additional flexibility is being added because of this project.**
- 3. The draft UDO's proposed approach to parking requirements is more aligned with future vision for multi-modal and provides more flexibility for solutions.**
- 4. The draft UDO produces an urban form that is more consistent with the future vision for Charlotte prescribed in the Charlotte 2040 Comprehensive Plan that calls for a more connected and walkable city.**

Economic Analysis Findings

The economic analysis identified the following high-level impacts.

- 1. The draft UDO is likely to lead to more development occurring by right after the initial alignment rezoning and community area planning process, which will decrease the number of projects needing rezoning or condition zoning.**

This change will decrease cost and the development period for projects. The draft UDO has three review types of projects: projects built by-right, by-right projects built with prescribed conditions, and projects requiring a rezoning. This approach should mitigate needs for project specific conditional zoning or rezonings. EPS reviewed the zoning designation for 115 multifamily apartment projects built between 2018 and 2021 in Charlotte. Over 40 percent of these projects were approved and built with a conditional zoning designation. It is likely that an additional amount of these projects required a rezoning to conventional district (i.e., no conditions). This is consistent with the feedback that the stakeholders provided. The Design Analysis found that all the actual case study projects evaluated could be built under the draft UDO without additional variances or conditions beyond those needed for the original project.

- 2. The draft UDO has the potential to generate greater development potential than the current ordinance which will increase the potential economic value of development within the city and provide greater capacity for growth.**

The increased amount of development capacity from the draft UDO varies by development context/place type.

The most substantial change in the Neighborhood 1 Place Type is the allowance of duplexes and triplexes on any formerly single family only lot in

the city. EPS estimates that 7 percent of existing single family lots in the city have a high likeliness for redevelopment from one unit to two or three. Redevelopment of these lots could result in 9,000 to 10,000 additional attached units. For perspective, the Community Viz model used to evaluate the City's Future Place Type Map estimated 20,400 new attached units will be built by 2040 (not factoring in this allowance) and the city has capacity for 38,000 units. This change has the potential to increase capacity for attached units by 25 percent. Furthermore, the ability to provide two units instead of one unit on a parcel will entice the construction of two units, which due to the UDO design regulations will result in smaller and less expensive units.

The design analysis found that for the actual project sites evaluated in the Neighborhood 2 and Activity Center zoning districts had the potential to generate 8 percent greater development capacity (average of all three projects) if built to the maximum allowance of the district. For a prototypical urban apartment project that equates to an increase of 22 units, a \$660,000 increase in project returns, and a 7 percent decrease in residual land cost per unit. The required rental rate for a unit decreased by approx. \$10 per month for returns to match. The community viz model estimated that the capacity for multifamily units in the city based on the Place Type Map is 280,000. An eight percent increase result in an additional capacity of 22,400 units.

3. *The level of investment in projects required by the draft UDO in most cases will increase however these costs are offset by the increased development potential and by process improvements.*

The level of increased investment for projects (i.e., costs) were less than 2 or 3 percent for most of the items evaluated in the process. The cost increases from each new requirement are not uniform across all project types. For context, a 1 percent increase in project cost results in an increase in required rent per month of \$10-15 for an apartment to match returns for a project. As shown above, the draft UDO is estimated to increase capacity for development on project sites. The increased yield can offset increased costs associated with the UDO in most cases. As well, development process improvements (e.g., more by-right development, new UDO administrator) will also impact the cost of development by decreasing the length and requirements of the approval process.

In addition, the draft UDO will require projects to provide community amenities and match the desired built form for the community prescribed in the Charlotte Future 2040 Comprehensive Plan. The value of these benefits being provided in a more uniform manor will have additional economic benefits that could not be quantified in this study. The draft UDO will provide a more consistent application of infrastructure and community amenities without the need for negotiations with city staff, city council, and the community through conditional rezoning approvals.

Specific Cross-Cutting Considerations

The following issues require continued evaluation and monitoring through the adoption process and the implementation of the UDO.

- **Impact on Small Projects:** The draft UDO provides a more consistent approach to requirements for all development projects, which results in increased investment from the developer. These increased investment requirements are likely to be more impactful on small projects. A growing share of new development in Charlotte will be on infill and redevelopment sites (estimated to be 56% of development capacity in the city) that have an average size of less than 1.5 acres. This is in comparison to the undeveloped parcels in the city that have an average size of 9.7 acres. Specific issues that have a greater impact on smaller projects are identified in the project specific issues including requirements related to site access for duplex/triplexes/quadplexes, post construction storm water, building/sidewall heights, and thresholds for use of conservation subdivision standards. Greater flexibility for addressing new requirements for smaller projects (under 5 acres) should be explored as issues arise.
- **Heritage Trees:** The draft UDO includes a requirement for any heritage tree (defined as a tree native to North Carolina with a DBH of 30 inches or greater) to not be impacted unless certain conditions exist. If a tree needs to be removed, mitigation is required through replacement tree planting or mitigation payments. The intent of the ordinance is to protect the city's tree canopy, which has been diminishing. The impact of the new requirement is impossible to quantify on a city-wide scale and difficult to document on a project specific setting through comparisons on built projects. Each development site will have widely varying impacts from heritage trees. If known, the cost of replanting trees and paying mitigation payments can be navigated and accommodated in many cases. However, the needs on each site, especially heavily wooded sites, are unknown without a tree survey. The cost of a tree survey will vary by site size and number of trees but is a needed step in pre-development planning. In most cases, a developer considers buying or developing a property prior to obtaining financing for the development project. The uncertainty of the cost of mitigating trees on a site may lead to developers passing on a site due to the upfront costs of understanding the magnitude of the potential impact. To address this issue, greater flexibility in the mitigation options and triggering for the allowance for mitigation is needed and can help (not fully address the impact). Also, more specific language regarding the impact of trees on adjacent properties is needed.
- **Area Overlap:** The draft UDO requires development projects in many contexts to provide both usable open space and green area, which includes tree save and other approaches to address tree canopy and environmental goals. These requirements are additive in most cases. An impactful recommendation developed in the project process was the allowance for some

types of green areas to overlap open space areas when certain conditions and the requirements of both standards are met. This added flexibility is a positive change that provides for greater design flexibility.

- **Building Heights:** The building height allowances have a major impact on potential yield of site. No major challenges related to specific zoning districts or place types were identified, however height is a vital component of development bonuses and potentially of transition strategies between lower density and higher density areas (e.g., neighborhood 1 place types and activity centers). Careful consideration of any future height restrictions is needed to understand impacts. Additionally, additional height given through development bonuses can be an effective incentive for encouraging development of community benefits like affordable housing. The city should continue to use height bonuses to achieve community benefits and consider increasing achievable height bonus for affordable housing in activity centers.
- **Emerging Technologies:** The draft UDO has several new provisions that attempt to provide progressive strategies for inclusion of emerging technologies for building construction and mobility. The continued updating of the UDO to facilitate the use of emerging technologies is needed after adoption. One of the key issues identified related to this topic is the requirement for parking lots and garages for selected uses to be equipped with a specified share of spaces that have electric charging stations or are pre-wired for electric charging. The requirements call for a substantial portion of spaces to be pre-wired, which can have significant cost impacts on development. The provision of electric charging is a community benefit however the continued changes of charging requirements and equipment are uncertain, and the draft provisions may overly estimate the need for charging stations. Additional analysis is needed to ensure that requirements are in line with technology changes.
- **UDO Adaptation:** Lastly, it is a certainty that the UDO once adopted will need to be amended to address several unintended consequences and to adapt with change development trends/practices. Greater clarity on the process for implementation of the UDO once adopted and when there are opportunities for changes (beyond site specific rezonings) to be made on a regular basis is desired by the development community and can help alleviate concerns of certain individual provisions within the UDO.

Project Specific Findings

Place Type Specific Issues

The following issues were identified by the specific place type focus groups and are unique to that place type.

Table 1 Place Type Specific Issues Tracking

Issue	Description	Type	Action
Neighborhood 1			
Sidewall requirement for duplex/triplex	12' sidewall height limit at setback	Yield	Update
R8 Zone District Translation	R8 zone district translates to N1-D which is more restrictive than the current R8 district in terms of duplex/triplex/quadplexes	Yield	No Action
Front Access and Parking	A single access point is required with parking to be accessed on the side or rear of parcel for duplexes/triplexes.	Yield	No Action
Stormwater improvement threshold	Threshold for triggering stormwater requirements reduced from 20,000 to 5,000 sf of built upon area	Yield/Cost	Continued Review
Heritage Trees	Buffer around heritage trees is 30', which must be kept or mitigation options are provided if trees impact greater than 50% of parcel	Yield/Cost	Continued Review
Conservation Residential Development	The threshold for use of a conservation district subdivision is 10 acres. It is 2 acres currently	Yield	Update
Affordable Housing			
Zone District Options	Affordable projects can have flexibility of which zone district to use to build a project without requiring a rezoning. Example using N2-B in a NC district.	Cost	Update
Expedited Review Process	Can affordable projects have an expedited review process?	Cost	Continued Review (Non-UDO issue)
Conservation Residential Development	Conservation residential development may not be used within a voluntary mixed-income residential development.	Yield	Continued Review
Activity Centers/Neighborhood 2			
Open space requirements	The additive open space requirements can be too cumbersome to accommodate on sites	Yield	Update
Heritage trees	Buffer around heritage trees is 30', which must be kept or mitigation options are provided if trees impact greater than 50% of parcel	Yield/Cost	Continued Review
Front setbacks based on Street Maps	Setbacks for certain projects or areas have significant impact on buildable area	Yield	Update
EV Charging	Required for MF, Hotels, and mixed use with residential, or principal use is a parking garage	Cost	Continued Review
Employment			
Industrial Building and Block Lengths	Current 800' max on block lengths	Yield	Update
Landscape Yards	Landscape yard or fence is required along all lot lines. Are landscape yards or fence required between two industrial uses?	Cost	Continued Review
Heritage trees	Buffer around heritage trees is 30', which must be kept or mitigation options are provided if trees impact greater than 50% of parcel	Cost	Continued Review
Open space requirements	The additive open space requirements can be too cumbersome to accommodate on sites	Yield	Update
Adaptive Reuse			
Parking requirements	Parking requirements are limiting for reuse, especially from industrial	Yield	Continued Review
Building Preservation	Can there be addition flexibility to design standards if the building is being preserved and has historic value?	Yield/Cost	Continued Review
Change of Use Triggers	Changing use triggers requirements even without a building modification.	Yield/Cost	Continued Review
Comprehensive Threshold/Trigger Matrix	Can we develop a single table that shows the various triggers or thresholds that require improvements once they are hit?	Yield/Cost	Continued Review

Source: Economic & Planning Systems