KNOX COUNTY REGULATORY AUDIT

I. INTRODUCTION

Knox County is currently undertaking a comprehensive review of its primary development regulations, including the zoning ordinance, subdivision regulations, stormwater management standards, and street design specifications. This audit is a critical and timely initiative, driven by the need to modernize outdated codes that no longer align with the County's present-day challenges and future aspirations, as set forth in the recently adopted Comprehensive Plan. The existing regulations, many of which have not been substantially updated in decades, often create barriers to quality growth, housing choices, and a stronger economy. This review is essential to identify and rectify inconsistencies, streamline development processes, and ensure that the County's regulatory framework effectively serves the needs of its residents and businesses.

This regulatory audit is directly guided by the goals and action items set forth in the adopted Knox County Comprehensive Plan. The plan, which was data driven and developed through extensive community engagement, establishes a clear vision for the County's future, emphasizing responsible growth and the preservation of community character. The recommendations and findings of this audit are intentionally designed to translate the community's vision from the Comprehensive Plan into clear, predictable, and enforceable development standards. By aligning regulations with the plan, we can ensure that future development contributes positively to the County's long-term prosperity and quality of life.

II. BENEFITS OF A UNIFIED DEVELOPMENT ORDINANCE

UDOs offer a number of significant benefits. By consolidating and modernizing development regulations, UDOs help to create a more efficient, predictable, and effective development review process. Key benefits include:

1. **Greater Predictability:** UDOs provide a clear and consistent set of rules for development, which can help to create a more predictable development review process. This is beneficial for developers and residents, who need to be able to anticipate the requirements for their projects.

2. **Streamlined Development Process:** By combining all development-related regulations into a single document, UDOs significantly streamline the development review process.

3. **Improved Consistency:** UDOs help to ensure that development regulations are applied consistently across a community. This helps to prevent arbitrary decision-making and ensure that everyone is treated fairly.

4. **Enhanced Communication:** UDOs improve communication between developers, the public, and local government officials. By providing a clear and concise set of rules, UDOs ensure that everyone is on the same page.

5. **Increased Flexibility:** UDOs are intended to allow for more creative, innovative development projects and standards that might not be possible under a more rigid set of rules.

6. **Implementation of Community Goals:** UDOs are a powerful tool for implementing a community's vision for its future. By aligning development regulations with the goals of a Comprehensive Plan, UDOs help to ensure that new development is consistent with the community's long-term vision.

With a growing population and increasing development pressure, Knox County faces challenges, including sprawling development patterns, infrastructure strain, and an outdated regulatory system. The adoption of a Unified Development Ordinance presents a strategic opportunity to address these challenges and guide the County towards a more prosperous future.

III. THE AUDIT PROCESS

The comprehensive audit of the County's Zoning, Subdivision, Stormwater, Streets, Building and Fire Code standards consists of four interconnected components: in-depth review, stakeholder input, plan alignment, and community check-in. The methods of these components are described below.

1. **In-Depth Review:** The consultant team, in close collaboration with the Knox County Mayor's Office, Engineering and Public Works, and Knoxville-Knox County Planning, conducted a comprehensive, line-by-line review of the existing regulations and related materials. Each section of the regulations was annotated with observations and recommendations, informed by prior experience and a broad library of national and regional best practices in land use regulation.

2. **Stakeholder Input:** Over the past several months, subject matter experts and stakeholders were engaged in a few ways. In-person and virtual roundtable discussions were held to gather perspectives, ideas, and technical insights related to the regulations. In addition, three tailored surveys were distributed to internal staff users, external users, and elected and appointed officials resulting in a total of almost 100 responses. Survey results are included as an appendix to this report. The main takeaways from stakeholder feedback, including surveys and discussions, include:

   a. Predictability and Flexibility: Nearly all stakeholders highlighted lack of predictability in the current regulations and reliance on negotiated approvals and variances, calling for more by-right entitlements and clear, objective standards to reduce uncertainty and delays. Stakeholders agree that regulations must be predictable for investment but also flexible enough to respond to site-specific conditions, natural topography, and market realities.

   b. Housing Mix and Attainability: Nearly every group emphasized the need for a greater mix of housing options. Current density caps, zoning and subdivision design standards, as well as parking and other infrastructure requirements are seen as major barriers. Stakeholders support zoning updates that enable a greater range of housing mix and mixed-use by right, while still upholding design quality and community character.

   c. Modernized Infrastructure and Site Design Standards: Stakeholders desire standards that align with place types, updated stormwater approaches, and better integration of infrastructure planning with growth. There is agreement on the importance of protecting natural features as buffers, including streams, hillsides, and other natural assets.

d. Balancing Community Character with Development. There is a shared priority to better define zoning districts and standards to implement the character and vision adopted in the Comprehensive Plan. There is also a need to balance preservation of existing character with opportunity.

3. **Plan Alignment:** With the adoption of the County's Comprehensive Plan and the Advance Knox initiative, a critical component of the review involved aligning the regulations with the community's long-term goals and vision. This step ensured consistency between regulatory updates and the guiding principles established through prior planning efforts. Identified areas of alignment and misalignment are summarized in Section III below.

4. **Community Check-In:** We are here! After compiling the information and recommendations from the steps above and reviewing the goals and actions identified in the Comprehensive Plan, the project team is checking in to ensure we are on the right track and gather additional input. All Knox County residents and business owners are invited to share feedback on how the recommended regulatory updates may benefit the community, as well as suggestions to refine and improve the recommendations.

IV. ALIGNMENT WITH THE COMPREHENSIVE PLAN

As a standalone vision and policy document, the Comprehensive Plan is implemented through established codes and regulations for zoning, subdivisions, stormwater, roads and bridges, and building and fire safety, to advance its goals, policies, and actions. Many communities fail to advance plans by letting regulatory updates lag, furthering the disconnect between plans and the regulations that implement them. Knox County is taking the necessary steps to proactively shape the future, starting with this alignment effort.

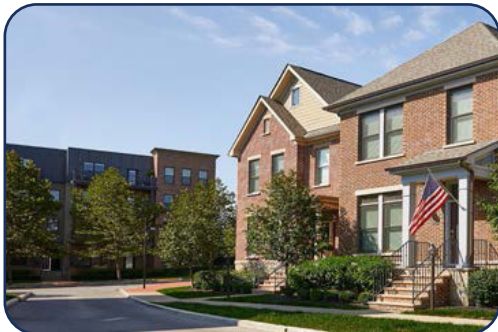
figure 1   **Mixed-Use Development**
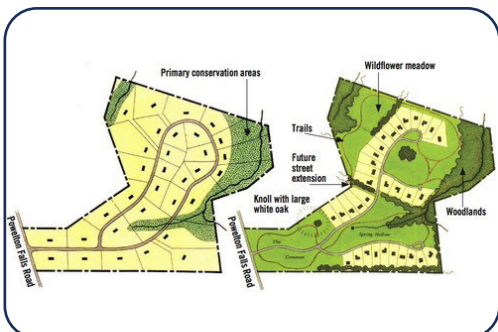

figure 2   **Housing Variety**

figure 3   **Conservation Subdivision Example**

1. **Promoting Mixed-Use and Walkable Development**. The Plan recommends creating new zoning districts to accommodate mixed-use place types, providing standards to support desired form, character, and uses. To promote walkability, the Plan calls for standards that provide pedestrian and vehicular connections between new developments.

2. **Encouraging a Variety of Housing.** The Plan recommends zoning districts to implement varying residential place types, allowing for housing options, with design guidelines for elements like building types, lot size, height, and setbacks to ensure consistent and desirable character across neighborhoods. Additional Plan recommendations support the removal of regulatory barriers that can increase the cost of housing, for example, allowing appropriate types of residential development within commercial areas.

3. **Protecting Local Resources.** The Plan includes several strategies to protect the County's historic, rural, and natural resources and character, which includes creating a large-lot agricultural zone, establishing standards for conservation subdivisions, and creating a scenic corridor overlay zone.

4. **Subdivision Strategies.** The Plan encourages innovative development options, like the use of conservation subdivisions; it emphasizes well-connected pedestrian and vehicle networks within and between new developments, including residential subdivisions; and it enhances

walkability, recommending sidewalk standards that are tailored to the character and needs of different place types.

5. **Infrastructure-Related Implementation Strategies.** The Plan highlights the importance of proactively coordinating infrastructure improvements with new development. It also emphasizes the importance of promoting growth in areas that are already served by adequate infrastructure.

6. **Transportation Strategies**. The Comprehensive Plan includes a robust set of implementation strategies aimed at improving transportation safety, effciency, and connectivity, while looking for opportunities for more multimodal facilities.

Key Areas of Misalignment

A close evaluation of Comprehensive Plan implementation policies and actions, in relation to existing development regulations, revealed key areas of misalignment. This section focuses on incongruities with the current zoning ordinance.

1. **Place Types and Zoning Districts.**

    The Comprehensive Plan emphasizes place types that reflect community priorities such as rural conservation, more housing choices, and walkable mixed-use centers. The zoning code, however, includes a wide array of districts that often overlap, contain outdated uses, and do not provide adequate tools to achieve the plan's objectives.

    For example, multiple rural and low-density residential districts share similar development requirements and purposes (for example, lot size, permitted use, setbacks). By consolidating them into fewer, clearly defined districts, zoning code administration can be simplified and better support long-range land use vision. Establishment of additional, new districts, such as those to better accommodate mixed uses, will be necessary to fill gaps between Plan goals and the standards necessary to achieve them.

figure 4   **Zoning & Place Type Comparison**

2. **Design and Dimensional Standards.**

    The Comprehensive Plan promotes walkable neighborhoods, a mix of housing, connected multimodal corridors, and compact centers. However, excessive parking requirements and standards for lot size, setbacks, and connectivity are outdated and narrowly defined. Modernization should include updates like adjustments to block length, building form, and site layout to ensure that development contributes to stated Plan goals.

    For example, some designated residential areas should emphasize street and path connections between neighborhoods, proximity to parks, and integration with nearby commercial services. Similarly, commercial corridors should balance automobile access with pedestrian accommodations and building orientation that creates a more engaging streetscape. By updating these standards, the zoning ordinance will move from regulating density alone to shaping the form and character of development in ways that align with the community's long-term vision.
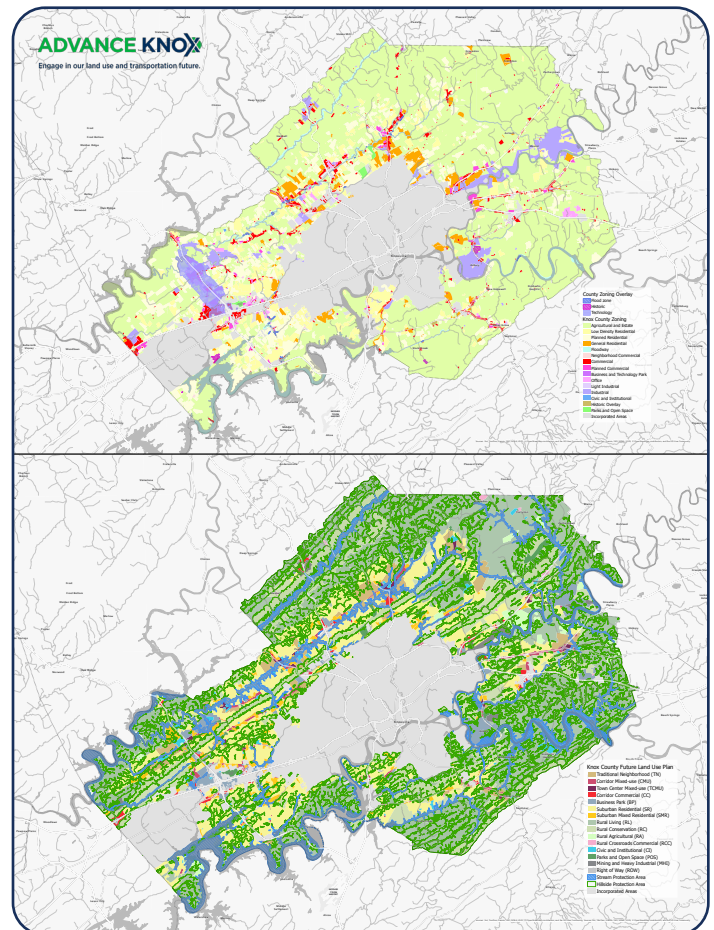
Table 5 Table of Uses by Zoning District

LAND USE/ ACTIVITY	OPEN LAND AND AGRICULTURAL					RESIDENTIAL				MIXED-USE			INDUSTRIAL & MANUFACTURING	
	RO	AGR	AGW	AGRR	RRS	R	RM	LM*	NR	NC	CC	CEC	ICL**	ICH**
Professional office	-	-	-	-	-	□	■	O	■	■	■	■	■	-
Public safety service facility	□	□	■	■	■	■	■	■	■	■	■	■	■	■
Recreation, active	-	□	■	■	■	■	■	■	■	■	■	■	■	□
Recreation, commercial (indoor)	-	-	-	-	-	-	-	-	-	■	■	-	□	-
Recreation, commercial (outdoor)	-	-	-	-	-	-	-	-	-	-	■	-	□	-
Recreation, developed outdoor	■	-	■	■	■	■	-	-	-	-	-	-	-	-
Recreation, passive	■	■	■	■	■	■	-	-	-	-	-	■	■	■
Recreational vehicle park	-	-	□	□	-	-	-	-	-	■	-	-	-	-
Recycling service	-	-	□	□	-	-	-	-	-	-	□	■	■	■
Religious assembly	-	-	□	□	□	■	■	■	■	■	■	■	-	-

figure 5   **Consolidated Use Table Example**

Existing Landscape

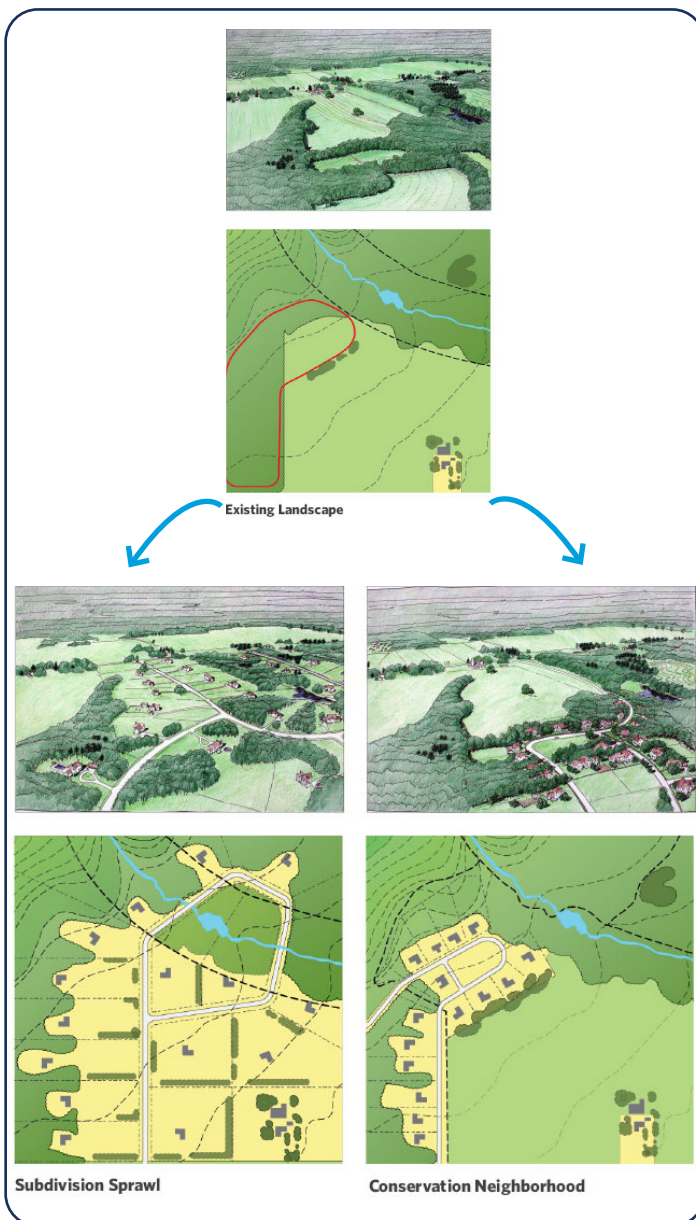Subdivision Sprawl   Conservation Neighborhood

figure 6   **Conservation Subdivision Example**

3. **Uses and Activities.**

   Over the years, the list of permitted uses has grown to include antiquated, overly specific, or irrelevant categories that no longer reflect modern development needs. Many are unnecessarily categorized as use on review, lending uncertainty for both applicants and the public and burdening review processes.

   An updated and consolidated list of permitted uses should reflect contemporary conditions and reduce complexity. Where concerns about compatibility remain, clearer performance standards can provide protection without requiring extensive discretionary review.

4. **Natural Environment and Resource Protection.**

   The Comprehensive Plan emphasizes conservation of ridges, valleys, floodplains, and other sensitive elements of the natural landscape. Development in flood-prone areas and alterations to sites with steep slopes and other natural features have adverse consequences on the County's physical resources. Manage conservation and protection efforts through direct references to federal flood maps and through performance standards requiring preservation of resources and allowing flexible design to complement natural topography, corresponding to actual conditions on the ground.

   For example, place types such as Rural Conservation should be more clearly defined to emphasize clustered development, open space preservation, and trail connectivity. By embedding environmental standards into the UDO framework, the County can better align land use regulations with its commitment to conservation and preservation.

5. **Process and Procedures.**

   Reliance on negotiation in zoning decisions, such as those related to requests in planned districts, has produced inconsistent, less predictable outcomes and placed too much emphasis on case-by-case actions. The Comprehensive Plan calls for a clearer, more predictable decision-making framework, where flexibility is built into the regulations themselves rather than achieved through repeated exceptions and bargaining.

V. AUDIT RECOMMENDATIONS AND NEXT STEPS

This section offers specific recommendations and proposes strategic approaches informed by the policies and goals of the Comprehensive Plan. Within this section policies from the Comprehensive Plan that are directly related to the implementation of the UDO have been identified. Beneath each statement you will find high level recommendations that represent a range of options for how the policy could be implemented. Under each policy, you will also find additional, more specific action items that come directly from the Comprehensive Plan. Those are followed by another set of implementation recommendations specific to that action item.

figure 7 **Advance Knox Policy/Goal Alignment**

Policy 1: Improve the predictability and transparency of the development process.
Proposed Recommendations:

1. **Development Standards**: Establish clear, objective development standards that provide developers and the community with predictable and transparent development review processes

2. **Published Timeline Standards:** Establish and publish specific timelines for each type of development application with automatic escalation if deadlines are missed.

3. **Online Application Tracking:** Implement comprehensive online systems that allow applicants to track application status, view comments, and communicate with staff in real-time.

4. **Standardized Application Requirements:** Create standardized application checklists and requirements for each type of development application to ensure consistency and completeness.

5. **Regular Communication Protocols:** Establish regular communication schedules including status meetings, progress reports, and proactive notification of issues or delays.

6. **Performance Monitoring and Reporting:** Track and publicly report on development review performance including timeline compliance, customer satisfaction, and process improvements.
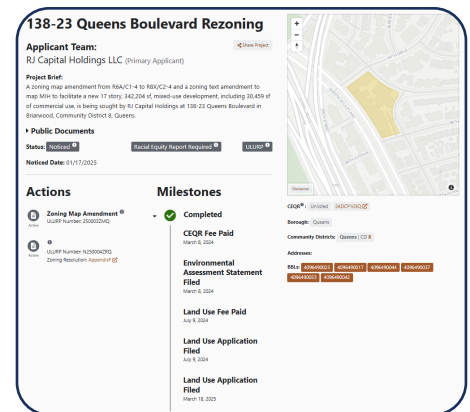
figure 8 **NYC Online Permit Tracking**

Create a Unified Development Ordinance (underway as part of this process)
Proposed Recommendations:

1. **Staff Training and Transition:** Develop comprehensive staff training programs and transition procedures to ensure smooth implementation and consistent application of the new regulations.

2. **Performance Monitoring System:** Establish metrics and monitoring systems to track the UDO's effectiveness in achieving Comprehensive Plan goals and make adjustments as needed.

Modernize procedures in the zoning code
Proposed Recommendations:

1. **Digital Application Platform:** Implement a comprehensive digital platform for all applications including online submission, document management, and real-time status tracking.

2. **Administrative Reviews:** Create administrative approval processes for routine applications that meet clear, objective standards, reducing the need for discretionary review.

3. **Concurrent Reviews:** Establish concurrent review procedures where multiple departments review applications simultaneously rather than sequentially.

4. **Roles and Responsibilities:** Clearly define roles and responsibilities for all departments involved in development review.

5. **Timelines:** Establish and publish clear timelines for each type of application with automatic escalation procedures if deadlines are not met.

figure 9   **Permitting Timeline Example**

6. **Customer Service:** Implement customer service standards including response time requirements, regular communication protocols, online access to application status and requirements, and satisfaction monitoring.

7. **Consistency Standards:** Develop clear standards for determining when rezonings are necessary to support the Comprehensive Plan and criteria for evaluating consistency.
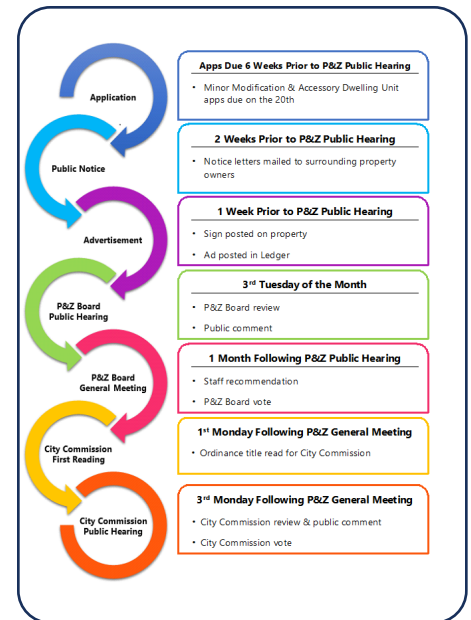
Provide ongoing staff training and continuing education opportunities
Proposed Recommendations:

1. **Comprehensive Orientation Program:** Develop detailed orientation programs for new staff covering all aspects of development review, customer service, and local regulations.

2. **Annual Training Requirements:** Establish annual training requirements for all development review staff including both internal and external training opportunities.

3. **Specialized Topic Training:** Provide specialized training on complex topics such as environmental regulations, historic preservation, and emerging development trends.

4. **Cross-Training Programs:** Implement cross-training programs that ensure multiple staff members can handle different types of applications and review functions. Encourage cross-pollination of experience within the department, to ensure redundancy in specialties and exposure to the overlaps between regulatory environments.

5. **Professional Development Support:** Provide financial and time support for staff to attend conferences, obtain certifications, and participate in professional organizations.

Provide training for elected and appointed officials
Proposed Recommendations:

1. **New Member Orientation:** Provide comprehensive orientation for new planning commission and board members covering legal requirements, procedures, and local planning context.

2. **Annual Training Requirements:** Establish annual training requirements for all appointed and elected officials involved in development review and planning decisions to ensure informed and consistent decision-making.

3. **Legal Update Training:** Provide regular training on legal updates, court decisions, and regulatory changes that affect planning and development review.

4. **Ethics and Conflict of Interest Training:** Ensure all officials receive regular training on ethics requirements, conflict of interest rules, and appropriate decision-making processes.

5. **Best Practices Workshops:** Organize workshops on planning best practices, emerging trends, and successful approaches from other communities.

Policy 2: Ensure that development is sensitive to existing community character.
Proposed Recommendations:

1. **Neighborhood Character Assessment:** Conduct an assessment of existing neighborhood character adjacent to new development types including building types, lot patterns, and landscape characteristics.

figure 10 **Neighborhood Character Assessment Example**

2. **Design Standards:** Develop design standards that require new development to respond to existing character while allowing for appropriate contemporary design.

3. **Compatibility Guidelines:** Create guidelines that address building scale and site design, and that contribute to neighborhood character.

4. **Flexibility for Innovation:** Provide flexibility mechanisms that allow innovative design approaches that meet the intent of character preservation while encouraging creativity.

Update or create buffer or transition standards
Proposed Recommendations:

1. **Develop Comprehensive Buffering and Transition Standards:** Establish buffer and transition standards such as landscaping, setbacks, building design, and screening requirements tailored to specific adjacent uses and contexts.

2. **Use-Specific Buffer Requirements:** Establish specific buffer requirements for different land use combinations based on potential conflicts and compatibility issues.

3. **Graduated Transition Standards:** Create transition standards that provide graduated changes in development intensity rather than abrupt changes between different land uses.

4. **Performance-Based Alternatives:** Allow performance-based alternatives to standard buffer requirements when applicants can demonstrate equivalent or superior buffering effectiveness.

5. **Maintenance and Management Standards:** Establish clear requirements for buffer maintenance and management including responsibility assignments and enforcement procedures.

6. **Existing Vegetation Preservation:** Provide incentives for preserving existing mature vegetation in buffer areas and requirements for supplemental planting when existing vegetation is inadequate.

Update landscaping, lighting, and off-street parking standards
Proposed Recommendations:

1. **Native and Adapted Plant Requirements:** Update landscaping standards to prioritize native and adapted plants that require less water and maintenance.

2. **Dark-Sky Friendly Lighting:** Implement lighting standards that reduce light pollution, improve energy efficiency, and enhance safety through appropriate fixture selection and placement.

3. **Parking Requirements:** Update parking standards to reflect current research on parking demand and support alternative transportation options, especially in walkable areas.

4. **Green Infrastructure Integration:** Require integration of green infrastructure elements such as bioretention areas and permeable surfaces in parking and landscaping design in more intense development areas.
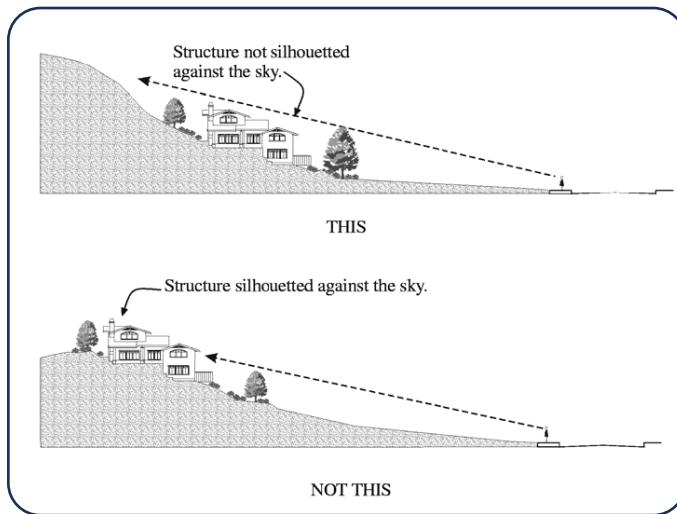
5. **Electric Vehicle Infrastructure:** Encourage EV-ready parking spaces and charging infrastructure in certain development types to support transportation electrification.

figure 11 **Ridgeline Protection Example**

Provide protections for ridges, views, and open spaces
Proposed Recommendations:

1. **Slope-Based Development Standards:** Apply development standards as slope percentages increase, with the most restrictive standards on slopes over 25-30%.

2. **Ridgeline Protection Requirements:** Prohibit development on ridgelines visible from public roads and require buildings to be located below ridgelines to preserve scenic views.

3. **Vegetation Preservation Standards:** Require preservation of existing mature vegetation and limit clearing to the minimum necessary for development and safety.

4. **Building Height and Placement:** Establish building height limits and placement requirements that prevent structures from breaking ridgelines when viewed from public areas.

5. **View Corridor Protection:** Identify and protect important public view corridors through development restrictions and design requirements.

Create standards to encourage preservation of open space
Proposed Recommendations:

1. **Minimum Open Space Requirements:** Establish minimum open space preservation requirements for new developments, depending on the intensity of development and environmental sensitivity.

2. **Clustering and Conservation Design:** Require or incentivize clustering of development to preserve larger, more functional open space areas rather than scattered small areas.

3. **Transfer of Development Rights:** Create a transfer of development rights program that allows property owners to sell development rights from environmentally sensitive areas to developers in growth areas.

4. **Open Space Management Requirements:** Establish requirements for long-term management and stewardship of preserved open space including funding mechanisms and maintenance standards.

Policy 3: Encourage infill and redevelopment of underutilized commercial land.
Proposed Recommendations:

1. **Redevelopment Incentive Zones:** Designate specific commercial corridors or areas for redevelopment incentives.

2. **Reduced Regulatory Requirements:** Provide reduced parking requirements, setback flexibility, and streamlined approval processes for redevelopment projects in targeted areas that make infill and redevelopment more attractive than greenfield development.

Identify and revise regulatory standards that are barriers for redevelopment
Proposed Recommendations:

1. **Regulatory Barrier Audit:** Conduct systematic review of all development regulations to identify specific standards that impede redevelopment of underutilized properties without providing commensurate public benefits.

2. **Alternative Compliance Mechanisms:** Create alternative compliance mechanisms for redevelopment projects that achieve regulatory intent through different means than new development.

3. **Expedited Review Processes:** Establish expedited review processes for redevelopment projects that meet specific criteria and provide community benefits.

Develop a simpler permitting and review process
Proposed Recommendations:

1. **Permitting and Review:** Streamline permitting and review processes by consolidating applications, creating online systems, establishing clear approval tracks, and reducing redundant review requirements while maintaining appropriate oversight and community input opportunities.

2. **Online Application Systems:** Implement comprehensive online application systems with document upload, status tracking, and electronic review capabilities.

3. **Tiered Review Process:** Create tiered review processes with administrative approval for routine applications and discretionary review reserved for complex or controversial projects.

4. **Concurrent Review Procedures:** Establish concurrent review procedures where multiple departments review applications simultaneously rather than sequentially.

5. **Performance Standards and Monitoring:** Establish performance standards for review times and customer service with regular monitoring and continuous improvement processes.

Policy 4: Incentivize walkable, mixed-use centers, corridors, and neighborhood service nodes as the preferred form of commercial development.
Proposed Recommendations:

1. **Public Infrastructure Investment:** Coordinate public infrastructure investments including sidewalks, streetscapes, and connected street networks to support mixed-use development.

2. **Density Bonus Programs:** Provide incentives for mixed-use developments.

3. **Parking Requirement Reductions:** Reduce parking requirements for mixed-use developments.

4. **Expedited Permitting:** Provide expedited permitting processes for mixed-use developments that meet specific walkability and design criteria.

5. **Form-Based Code Standards:** Implement standards that ensure mixed-use development creates human-scaled environments.

Table 3 Commercial, Mixed-Use, and Industrial Building Types

TYPE	DESCRIPTION
Neighborhood Shopfront	A building type that typically accommodates ground floor retail, office, and/or commercial uses with upper-story residential or office uses at a scale that complements the existing residential character of the area.

figure 12 **Form-Based Mixed-Use Example**

Create new zoning districts to implement mixed-use place types

Proposed Recommendations:

1. **Tiered District Structure:** Create a hierarchy of mixed-use districts with increasing development intensity and design flexibility that corresponds to the place types identified in the Comprehensive Plan.

2. **Form-Based Standards:** Implement development standards that regulate building placement, height, and design rather than just use separation.

3. **Active Ground Floor Requirements:** Require active uses (retail, restaurant, office) on ground floors facing primary streets in higher-intensity mixed-use districts.

4. **Parking Integration Standards:** Establish standards for integrating parking with mixed-use development, including shared parking provisions and location requirements.

5. **Transition Standards:** Develop standards for transitioning between mixed-use districts and adjacent residential areas through building height, setback, and design requirements.

Require pedestrian and vehicular connectivity with development
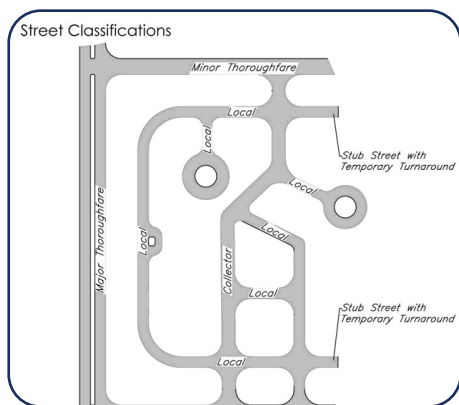
Proposed Recommendations:

figure 13 **Stub Street Requirement Example**

1. **Quantitative Connectivity Standards:** Establish minimum connectivity ratios and maximum block perimeters for new residential developments.

2. **Stub Street Requirements:** Require stub streets to all adjacent undeveloped properties that could reasonably be expected to develop in the future unless physical site constraints prevent connections.

3. **Pedestrian Connection Standards:** Require pedestrian connections between developments and to adjacent properties, schools, parks, and commercial areas.

4. **Waiver Process with Alternatives:** Allow waivers from connectivity requirements only when physical constraints exist, with required alternative improvements.

5. **Master Planning Requirements:** Require master planning for large undeveloped areas to ensure coordinated connectivity as development occurs over time.

Create incentives for more town center-style developments

Proposed Recommendations:

1. **Town Center Zoning Districts:** Create specific zoning districts for town center developments with standards that encourage mixed-use, walkable environments.

2. **Public Space Requirements:** Require public spaces such as plazas, greens, or squares in town center developments to create community focal points.

3. **Ground Floor Activation:** Require active ground floor uses such as retail, restaurants, or offices in town center.

4. **Parking Management:** Provide shared parking facilities and reduced parking requirements for town center developments to maximize walkability.

5. **Regulatory Incentives:** Provide incentives for developments that support and create walkable, mixed-use town centers.

Policy 5: Create neighborhoods with a variety of housing types and amenities in close proximity.
Proposed Recommendations:

1. **Housing Mix Requirements:** Establish requirements for new residential developments in designated place types to include a mix of housing types such as single-family, townhomes, and multiplexes.

2. **Amenity Requirements:** Require community amenities such as parks, playgrounds, or community centers in larger developments.

3. **Walkability Standards:** Establish standards that ensure housing developments include walkable street networks and pedestrian connections to amenities.

4. **Phasing Coordination:** Require phasing plans based on place types that ensure housing mix and amenities are distributed throughout development phases rather than concentrated in specific areas.

Create one or more zoning districts that implement the Traditional Neighborhood place type
Proposed Recommendations:

1. **Transect-Based Zoning:** Consider implementing zoning districts with different intensity levels from rural edge to neighborhood center, each with appropriate development standards.

2. **Complete Streets Standards:** Establish street design standards that prioritize pedestrian and bicycle mobility while accommodating vehicles, including narrow lanes, on-street parking, and sidewalks.

3. **Housing Mix Requirements:** Require a mix of housing types within TN districts including single-family, townhomes, and small multiplex buildings to ensure housing attainability.

4. **Neighborhood Centers:** Require or incentivize neighborhood centers with mixed-use buildings, civic spaces, and pedestrian-oriented design.

5. **Civic Space Standards:** Establish requirements for civic spaces such as greens, squares, or parks that serve as focal points for neighborhood activity.

Create standards that encourage neighborhoods in certain place types to include a mix of housing types
Proposed Recommendations:

1. **Housing Type Requirements:** Require new residential developments above a certain size to include a mix of housing types such as single-family, townhomes, and small multiplexes.

2. **Flexible Lot Standards:** Allow flexible lot sizes within developments to accommodate different housing types.

3. **Scattered Site Requirements:** Encourage a mix of housing types to be scattered throughout developments rather than concentrated in specific areas.

4. **Design Integration Standards:** Establish design standards that ensure different housing types are visually compatible and contribute to neighborhood cohesion.

5. **Phasing Requirements:** Require a housing mix to be maintained throughout all phases of development rather than concentrated in early or late phases.

Establish measurable standards to define neighborhood character

Proposed Recommendations:

1. **Character Analysis Methodology:** Develop systematic methodologies for analyzing neighborhood character including building surveys, lot pattern analysis, and building features.

2. **Quantitative Character Metrics:** Establish quantitative metrics such as building-to-lot ratios, setback ranges, height relationships, and density patterns that define neighborhood character according place types.

figure 14 **Qualitative Character Guidelines Example**

3. **Qualitative Character Guidelines:** Create qualitative guidelines that address design features that contribute to neighborhood identity.

4. **Character Preservation Tools:** Develop regulatory tools such as design standards or review processes that use character metrics to guide new development.

5. **Regular Character Monitoring:** Establish procedures for regularly monitoring neighborhood character changes and updating character standards as neighborhoods evolve.
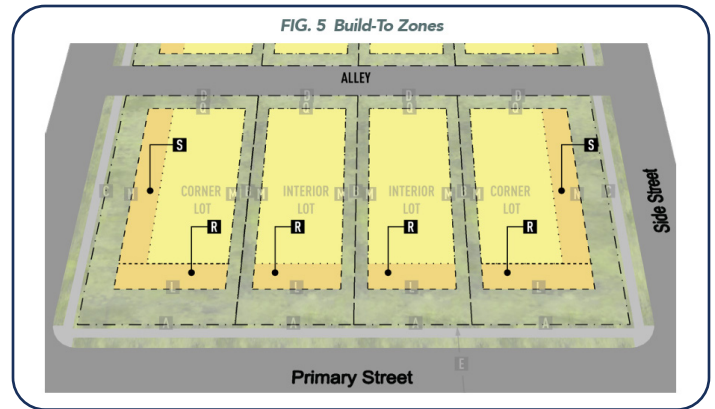
Provide site design flexibility for amenities

Proposed Recommendations:

1. **Flexibility Options:** Identify specific development standards that can be modified in exchange for amenities, such as setbacks, landscaping requirements, or parking standards.

2. **Community Benefit Evaluation:** Establish criteria for evaluating the community benefit of proposed amenities and determining appropriate levels of regulatory flexibility.

3. **Long-Term Maintenance Requirements:** Ensure that amenity provisions include long-term maintenance and management requirements to preserve community benefits.

Policy 6: Promote attainable housing that meets the needs of the current and future residents.
Proposed Recommendations:

1. **Housing Mix:** Expand housing options with appropriate design standards for each context.

2. **By-Right Approval Process:** Establish administrative approval processes for housing that meet clear, objective design standards without requiring discretionary review.

3. **Design Standards:** Develop standards that ensure housing is compatible with existing neighborhood character.

4. **Parking Flexibility:** Maintain and expand current reduced parking standards for housing, especially within place types that are or are intended to promote connectivity and provide more opportunities for walking and biking.

Allow the development of housing within commercial areas
Proposed Recommendations:

1. **Commercial Zone Modifications:** Amend existing commercial zoning districts to allow residential uses by right, either as standalone developments or as part of mixed-use projects.

2. **Mixed-Use Integration Standards:** Establish standards for integrating residential and commercial uses including ground-floor activation requirements and pedestrian connectivity.

3. **Transition Design Standards:** Develop design standards for residential development in commercial areas that ensure appropriate transitions to adjacent residential neighborhoods.

4. **Infrastructure Adequacy Requirements:** Ensure that residential development in commercial areas meets infrastructure requirements.

5. **Shared Parking Provisions:** Allow shared parking between residential and commercial uses to maximize land use efficiency and reduce parking requirements.

Identify areas for multifamily development with appropriate supportive infrastructure
Proposed Recommendations:

1. **Mixed-Use Development Zones**: Prioritize multifamily development in areas with existing infrastructure capacity.

2. **Coordinated Infrastructure Investment:** Coordinate multifamily zoning with planned infrastructure investments to ensure adequate capacity is available.

3. **Graduated Transition Standards:** Establish standards that provide appropriate transitions between multifamily development and existing single-family neighborhoods.

Create parking standards that support mixed-use developments
Proposed Recommendations:

1. **Shared Parking Provisions:** Allow shared parking between different uses with complementary peak demand periods, using established methodologies for calculating shared parking needs.

2. **Transit-Proximity Reductions:** Reduce or eliminate parking requirements for mixed-use developments within walking distance of transit stops or stations located within the City limits.

3. **Maximum Parking Limits:** Establish maximum parking limits to prevent over-provision of parking that can undermine walkability and alternative transportation use.

4. **Alternative Transportation:** Encourage bicycle parking, car-sharing spaces, or transit passes for mixed-use developments as alternatives to vehicle parking.

Policy 7: Encourage development practices that conserve and connect natural features and habitat.
Proposed Recommendations:

1. **Protection Priority Standards:** Establish clear priorities for natural feature protection including rare species habitat, mature forests, wetlands, and stream corridors.

2. **Green Infrastructure Integration:** Require integration of green infrastructure elements that provide ecological benefits while managing stormwater and providing other community benefits.

Create a large-lot agricultural zone
Proposed Recommendations:

figure 15 **Agritourism Example in Huron, TN**

1. **Minimum Lot Size Standards:** Establish minimum lot sizes of 10-40 acres depending on topography and agricultural viability to maintain farm operations.

2. **Agricultural Use Protections:** Provide strong protections for agricultural uses, including right-to-farm provisions and standards to limit conflicts with non-agricultural uses.

3. **Preserve Agricultural Uses:** Allow limited residential development to provide economic flexibility for farmers while protecting rural character and preventing subdivision and suburban sprawl in agricultural areas.

4. **Farm Business Provisions:** Allow farm-related businesses, agritourism, and value-added agricultural processing as accessory uses to support agricultural viability.

5. **Transfer of Development Rights (TDR) Integration:** Consider TDR provisions that allow farmers to sell development rights to developers in designated growth areas.

Create standards to encourage conservation subdivisions
Proposed Recommendations:

1. **Density Neutral Approach:** Allow conservation subdivisions to achieve the same overall density as conventional subdivisions while clustering development to preserve open space and natural features.

2. **Open Space Preservation Requirements:** Require minimum 50% open space preservation depending on the size of development and environmental constraints of the site.

3. **Flexible Design Standards:** Provide flexibility in lot sizes, setbacks, and street design to accommodate clustered development while maintaining neighborhood character.

4. **Primary Conservation Area Protection:** Ensure protection of primary conservation areas including wetlands, steep slopes, mature forests, and stream corridors.

5. **Open Space Management and Stewardship:** Establish requirements for long-term management and stewardship of preserved open space including management plans and funding mechanisms.

Establish scenic corridor overlay zoning
Proposed Recommendations:

1. **Development Standards:** Create standards for scenic corridors that protect important views, maintain rural or natural character, and manage development impacts.

2. **Corridor Designation Process:** Establish criteria and procedures for scenic corridors based on scenic quality, public use, and community input.

3. **Enhanced Development Standards:** Require greater setbacks, height restrictions, and design standards for development visible from designated scenic corridors.

4. **Vegetation Preservation Requirements:** Mandate preservation of existing vegetation and require additional landscaping to screen development from scenic corridors.

5. **Sign and Billboard Restrictions:** Limit signage along scenic corridors to preserve scenic character and prevent visual clutter.

6. **Access Management Provisions:** Consolidate and limit access points along scenic corridors to preserve safety and scenic quality while accommodating necessary development access.

Identify and provide incentives to reestablish trees and woodlands
Proposed Recommendations:

figure 16 **Tree Preservation Example**

1. **Tree Preservation Standards:** Establish standards with clear criteria for preserving existing mature trees during development.

2. **Reforestation Incentive Programs:** Provide incentives for reforestation of cleared or agricultural areas.

3. **Native Species Requirements:** Prioritize native tree species in preservation and replanting requirements to support local ecosystems and reduce maintenance needs.

Consider Hillside and Ridgetop Protection Plan
Proposed Recommendations:

1. **Development Standards by Slope Category:** Establish development standards for different slope categories with attention paid to erosion and stormwater, with the most restrictive standards on the steepest slopes and most visible ridgelines.

2. **Scenic View Protection:** Identify important public views and establish protection standards that prevent development from blocking or degrading these views.

3. **Alternative Development Approaches:** Provide guidance on alternative development approaches such as clustering, reduced density, or conservation design that can achieve development goals while protecting hillside and ridgetop resources.
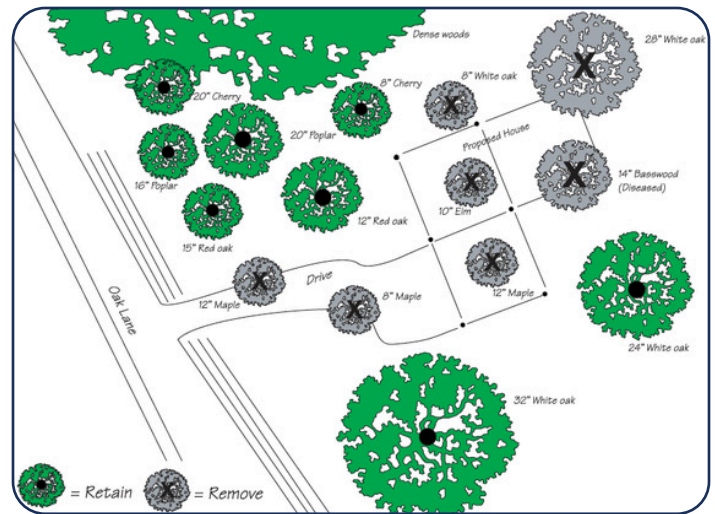
Policy 8: Conserve historic and cultural resources.
Proposed Recommendations:

1. **Design Guidelines and Standards:** Create detailed design guidelines that provide clear direction on appropriate preservation, rehabilitation, restoration, and new construction approaches.

2. **Designation Criteria and Procedures:** Develop clear criteria for historic designations based on architectural, historical, and cultural significance with established procedures for nomination and review.

Create a demolition delay process
Proposed Recommendation:

1. **Demolition Review Process:** Establish review procedures for proposed demolitions of historic properties that include evaluation of historical significance and preservation alternatives.

2. **Delay Period Implementation:** Implement delay periods (typically 30-180 days) during which preservation alternatives can be explored and negotiated.

3. **Technical Assistance Programs:** Provide technical assistance to property owners on preservation alternatives including rehabilitation, adaptive reuse, and relocation options.

4. **Community Involvement Process:** Include community involvement in demolition review to ensure public input on important preservation decisions.

Research and propose incentives and development standards for historic resources

figure 17 **Transfer of Development Rights**
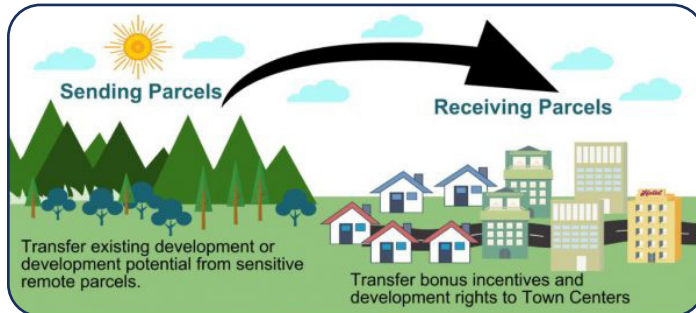
Proposed Recommendations:

1. **Regulatory Flexibility Provisions:** Provide regulatory flexibility for historic properties including alternative building code compliance and alternative compliance that facilitates preservation.

2. **Transfer of Development Rights:** Establish transfer of development rights programs that allow owners of historic properties to sell unused development rights to generate preservation funding.

3. **Expedited Permitting:** Provide expedited permitting processes for historic preservation projects to reduce regulatory costs and delays.

Policy 9: Coordinate infrastructure improvements with development.
Proposed Recommendations:

1. **Capital Improvement Programming Coordination:** Coordinate development approval with capital improvement programming to ensure needed infrastructure improvements are funded and scheduled.

2. **Developer Contribution Systems:** Establish systems and proportionate share requirements that ensure developers contribute to infrastructure improvements needed to serve their developments.

3. **Multi-Jurisdictional Coordination:** Coordinate with other jurisdictions and utility providers to ensure infrastructure needs are addressed through development review.

4. **Performance Monitoring and Adjustment:** Monitor infrastructure performance and adjust coordination procedures based on changing conditions and development patterns.

Focus growth in areas already served by adequate infrastructure
Proposed Recommendations:

1. **Infill and Redevelopment Incentives:** Provide regulatory incentives for development in areas with existing infrastructure capacity.

2. **Infrastructure Investment Priorities:** Prioritize public infrastructure investments in areas designated for growth rather than extending infrastructure to undeveloped areas.

3. **Development Review Criteria:** Include infrastructure capacity as a key criterion in development review and approval processes.

Require that infrastructure improvement agreements are in place before submitting final plat applications

Proposed Recommendations:

1. **Comprehensive Agreement Requirements:** Review agreement process to require infrastructure improvement agreements for all necessary infrastructure.

2. **Funding and Bonding Requirements:** Ensure adequate funding commitments and performance bonds to ensure infrastructure improvements are completed as agreed.

3. **Quality and Maintenance Standards:** Include quality standards and long-term maintenance requirements in infrastructure improvement agreements.

4. **Monitoring and Enforcement Procedures:** Establish procedures for monitoring compliance with improvement agreements and enforcing requirements when necessary.

Establish typical road standards for collectors and arterials
Proposed Recommendations:

1. **Standardized Cross-Sections:** Develop standard cross-sections for different types of collector and arterial roads including lane widths, shoulder requirements, and multimodal facilities based on place types.

2. **Design Variations:** Provide standard cross-sections for different contexts such as walkable and mixed use, suburban, and rural areas with appropriate modifications.

figure 18 **Standardized Road Cross-Section Example**

3. **Design Speed and Safety Standards:** Establish design speeds and safety standards for different road types that balance mobility and safety goals.

4. **Right-of-Way Requirements:** Establish right-of-way requirements for different road types that accommodate current and future needs including utilities and multimodal facilities.

5. **Coordination with Land Use Planning:** Coordinate road standards with place types to ensure appropriate road types are planned for different development patterns and intensities.
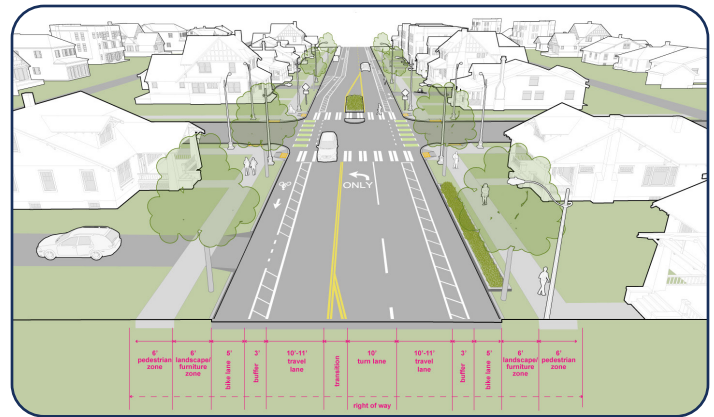
Policy 11: Promote connectivity with new development.
Proposed Recommendations:

1. **Connection Incentives:** Provide development incentives for projects that provide connectivity to future development.

2. **Technical Assistance:** Provide technical assistance to developers on connectivity planning and design to achieve optimal street and pedestrian networks.

3. **Phased Development Coordination:** Require coordination between different development phases and projects to ensure connectivity is achieved as areas develop over time.

4. **Public Investment Coordination:** Coordinate public infrastructure investments with private development to extend connectivity and support integrated transportation networks.

Evaluate new residential subdivisions to provide vehicle and pedestrian connections
Proposed Recommendations:

1. **Connectivity Analysis:** Require detailed connectivity analysis for all new subdivision applications showing existing conditions, connection opportunities, and proposed improvements.

2. **Multi-Modal Connection:** Evaluate and require both vehicular and pedestrian connections in specific place types, with pedestrian connections required even where vehicular connections are not feasible.

3. **Future Development Consideration:** Require analysis of how proposed subdivisions will connect to potential future development of adjacent properties.

4. **School and Park Connections:** Specifically evaluate and require connections to existing and planned schools, parks, and other community facilities.

5. **Alternative Compliance Options:** Allow alternative compliance when direct connections are not feasible.

Limit the use of cul-de-sacs
Proposed Recommendations:

1. **General Prohibition with Limited Exceptions:** Prohibit cul-de-sacs in new developments except where steep slopes (>15%), wetlands, or existing development prevent through-connections.

2. **Pedestrian Connection Requirements:** Require pedestrian and bicycle connections from cul-de-sacs to adjacent streets, developments, or community facilities even when vehicular connections are not feasible.

3. **Maximum Length and Design Standards:** When cul-de-sacs are permitted, limit length to 500-800 feet and require appropriate turnaround design for emergency vehicle access.

4. **Alternative Street Pattern Guidance:** Provide guidance and examples of alternative street patterns that achieve traffic calming benefits while maintaining connectivity.

5. **Retrofit Opportunities:** Identify opportunities to retrofit existing cul-de-sacs with pedestrian connections as adjacent development occurs.

Create sidewalk standards according to place types
Proposed Recommendations:

1. **Place Type-Specific Standards:** Establish different sidewalk requirements for walkable and mixed-use, suburban residential, and rural areas.

2. **Connectivity and Network Requirements:** Require sidewalks to connect to existing pedestrian networks and provide access to schools, parks, and commercial areas.

Policy 12: Improve safety for all users.
Proposed Recommendations:

1. **Complete Streets Design Standards:** Adopt complete streets design standards that accommodate all users including pedestrians, bicyclists, and motorists of all ages and abilities.

2. **Traffic Calming Measures:** Implement traffic calming measures such as narrower lanes, speed tables, roundabouts, and pedestrian refuges to reduce vehicle speeds and improve safety.

3. **Intersection Safety Improvements:** Require safety improvements at intersections including appropriate signal timing, crosswalk design, and visibility enhancements.

4. **Vulnerable User Protection**: Prioritize safety improvements for vulnerable users including children,

elderly, and disabled individuals through appropriate design and enforcement.

5. **Safety Performance Monitoring:** Establish safety performance monitoring systems that track crashes, injuries, and fatalities and guide ongoing safety improvements.

Update street standards

Proposed Recommendations:

1. **Design Standards:** Update street standards to reflect different areas including walkable and mixed use, suburban, and rural areas with appropriate design speeds and cross-sections.

2. **Multi Modal Accommodation:** Ensure street standards accommodate pedestrians and bicyclists as well as vehicles through appropriate facility design.

figure 19 **Multi Modal Accommodation Example**

3. **Flexibility Mechanisms:** Provide flexibility mechanisms that allow alternative street designs when they achieve safety and mobility goals through different means.

4. **Performance-Based Standards:** Develop performance-based standards that focus on achieving safety and mobility outcomes rather than prescriptive design requirements.
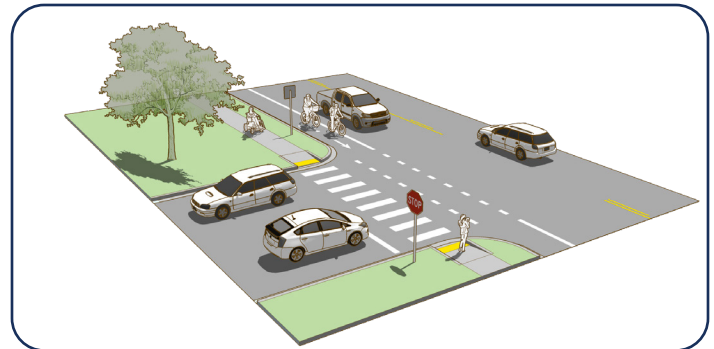
Update access management policies

Proposed Recommendations:

1. **Road Classification System:** Establish a road classification system with different access management standards for arterials, collectors, and local streets based on their function and traffic volumes.

2. **Driveway Spacing Standards:** Establish minimum spacing requirements between driveways and intersections based on road type, speed, and traffic volumes.

3. **Shared Access Requirements:** Require shared access between adjacent properties where feasible to reduce the number of access points and improve traffic flow.

4. **Traffic Impact Analysis:** Require traffic impact analysis for developments that generate significant traffic volumes with mitigation requirements for identified impacts.

5. **Retrofit and Improvement Programs:** Establish programs to retrofit existing access points that do not meet current standards when redevelopment or expansion occurs.

Policy 13: Provide alternative transportation options.
Proposed Recommendations:

1. **Place Type-Specific Facility Standards:** Establish different multimodal facility requirements for walkable and mixed-use, suburban, and rural place types based on expected demand and appropriate facility types.

2. **Network Connectivity Requirements:** Require multimodal facilities in specific place types to connect to existing networks and provide access to key destinations such as schools, employment centers, and commercial areas.

3. **Quality and Design Standards:** Establish quality and design standards for multimodal facilities that ensure they are safe, comfortable, and attractive for users of all ages and abilities.

4. **Maintenance and Management Requirements:** Establish clear requirements for maintenance and management of multimodal facilities including responsibility assignments and performance standards.

Policy 18: Create a park system that is accessible to and meets the needs of all residents.
Proposed Recommendation:

1. **Park System Access:** Ensure access to parks and recreation facilities for all residents including accessibility requirements, geographic distribution standards, and diverse facility types that serve different age groups and interests.

2. **Transportation and Connectivity:** Ensure park facilities are accessible to existing and proposed developments by multiple transportation modes including walking, bicycling, and vehicles.

Plan for and acquire land for new community parks in underserved areas
Proposed Recommendations:

1. **Proactive Site Identification**: Identify suitable sites for community parks in underserved and growing areas before development makes acquisition expensive or infeasible.

2. **Diverse Funding Mechanisms:** Use multiple funding mechanisms including land dedication requirements and grant funding to acquire park land.

3. **Partnership Opportunities:** Explore partnership opportunities with school districts, other public agencies, and private developers to acquire and develop community park facilities.

4. **Land Banking:** Consider land banking strategies that acquire suitable sites when available and affordable, even if immediate development is not planned.

The successful implementation of these recommendations will require sustained commitment from County leadership, adequate staffing and resources, ongoing community engagement, and regular monitoring and adjustment based on performance results. Knox County has the opportunity to create a model UDO that supports quality growth, preserves community character, and enhances quality of life for all residents.

Regular review and updates of these implementation strategies will be necessary as conditions change and new best practices emerge. Knox County should establish procedures for ongoing evaluation and improvement of the UDO to ensure it continues to effectively implement Comprehensive Plan goals and respond to evolving community needs.

VI. WHAT COMES NEXT

The recommendations included in this audit report provide a roadmap the County will use as it begins the comprehensive update and reorganization of codes and regulations guiding development in Knox County. One important component of this working roadmap includes a comprehensive, reorganized table of contents demonstrating how the existing regulations will be reorganized into a streamlined UDO, and where updates to existing content or the addition of new content will be warranted. The revised table of contents will be available online at the Advance Knox project website. The timeline for the creation of the UDO extends through spring of 2026 and will include opportunities for public input along the way. Adoption is anticipated in late summer 2026.