



Design Manual: Street Improvements

DESIGN MANUAL: STREET IMPROVEMENTS

One’s initial experience of a city or town is often the first drive through the heart of downtown, a moment in which first impressions are quickly cast and which often become lasting images of the personality of a place. Downtown Chapel Hill is no exception; students and their families drive down Franklin Street when they are visiting the campus for the first time, and visitors from Carrboro or nearby towns drive along Franklin and Columbia Streets to reach their destination. Tourists drive down Rosemary to park in the garages before making their way to Franklin Street.

Though a streetscape master plan often focuses on sidewalks and pedestrians, to revitalize Chapel Hill we must also consider what it means to drive through Chapel Hill, and how the flow of vehicular traffic relates to or intersects with pedestrian movement. Traffic calming measures can alter the cadence with which drivers experience the beauty of Downtown Chapel Hill and its stately trees and historic architecture, while making it safe for pedestrians to cross and for bicycles to share the road with cars. In addition, the visual character of the streetscape, including the trees and the lighting, must be considered not only as they relate to the spatial experience of the sidewalk but also as viewed from moving cars passing by.

The following chapter includes measures necessary to create a system whereby cars, pedestrians and bicycles share the streetscape and help to determine the visual fabric of Downtown. Among the strategies are visually prominent pedestrian crossings, traffic calming devices and designated bicycle routes. Together these strategies comprise a multi-faceted approach to the experience of moving through Downtown Chapel Hill.

Street Examples



Sense of Arrival: Annapolis, MD



Wide Street with Town Character: Athens, GA

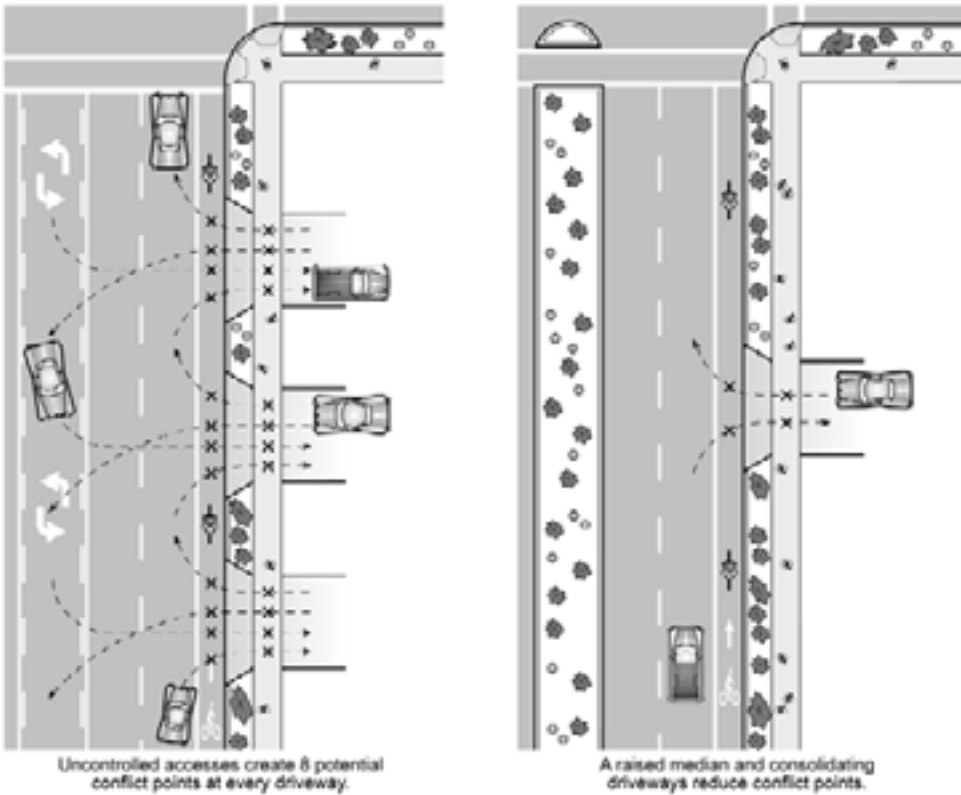


Diverse Trees: Boston, MA



Flexible Uses: Austin, TX

TRAFFIC CALMING MEASURES



(1995 Oregon Bicycle and Pedestrian Plan)

Franklin Street

Observations and Issues:
West Franklin Street along University Square is dominated by continuous vehicular traffic. Without street parking, all five lanes are dedicated to moving cars, proving little buffer between pedestrians on the sidewalks and adjacent speeding cars. In addition, the many curb cuts and driveways into and out of the University Square complex creates numerous conflict points between pedestrians walking along Franklin Street and cars turning in and out of driveways.

The center turn lane, which operates as a left-turn lane on either end of the block, results in additional confusion, particularly for cyclists who attempt to ride with the flow of traffic. It is not surprising that this area of Franklin Street is statistically one of the most accident prone within Downtown Chapel Hill.

- Strategies: Access Management for Bicyclists & Pedestrians
- Limit and consolidate driveways
 - Reduce number of conflict points by replacing portions of the center-turn lane with a planted median (left turns account for a high number of crashes with bicyclists and pedestrians).
 - Redirect vehicles to intersections with appropriate control devices.
 - Enhance pedestrian crossing opportunities with an accessible raised median and fewer conflicts
 - Reduce the need for special treatments at driveways to accommodate persons with disabilities

Rosemary Street

Observations and Issues:
Although Rosemary Street is a two-lane road, it has become a through road for traffic from adjacent towns such as Carrboro. Consequently, cars move at high speed and present potential dangers to pedestrians. In addition, the small number of signaled crosswalks for pedestrians increases the possibility for conflict with vehicles.

Due to property ownership and the difficulties of obtaining rights-of-way, completing sidewalks along Rosemary may take years to fully resolve. Thus, a short-term approach is needed: traffic calming measures may improve pedestrian safety, particularly in areas where pedestrians must walk along shoulders of roads in close proximity to oncoming traffic.

- Strategies: Raised Crosswalks and Intersections
- Raised crosswalks and intersections will elevate pedestrians so that they are more visible to vehicles and will give greater visual presence to pedestrian zones along the street. In addition, the raised grade will force cars to slow down as they traverse intersections, thereby improving the safety of the roads and mitigating conflicts between cars and pedestrians.
 - Continue right-of-way or easement acquisition to connect sidewalks over the long term
 - Install high visibility crosswalks, including raised and brick-paved intersections at locations indicated on page 105

PLANTED MEDIANS: PROPOSED LOCATIONS

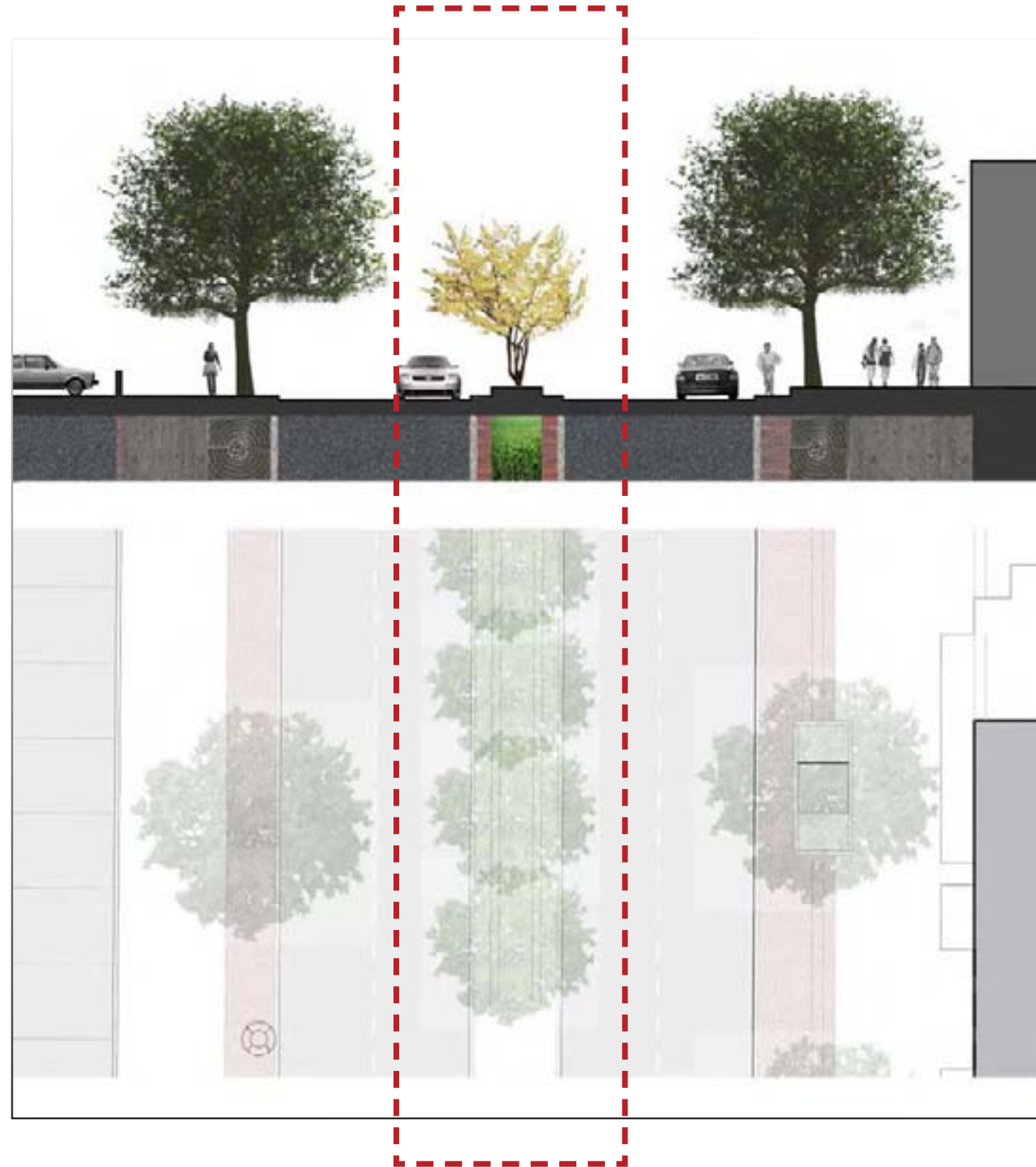
LEGEND

Planted Median



The Streetscape Master Plan proposes installation of planted medians along West Franklin Street: at the intersection of Church Street and West Franklin Street. At the Church Street intersection, the medians will replace the left-turn lane on both sides of the intersection so that four active lanes will remain. In addition, the median will be interrupted in discrete locations, particularly at driveways, to allow space for vehicles to make left turns. Along these segments, the left-turn lane will be maintained in lieu of the traffic median.

University Square Parking Lot



140 West Development

West Franklin Street

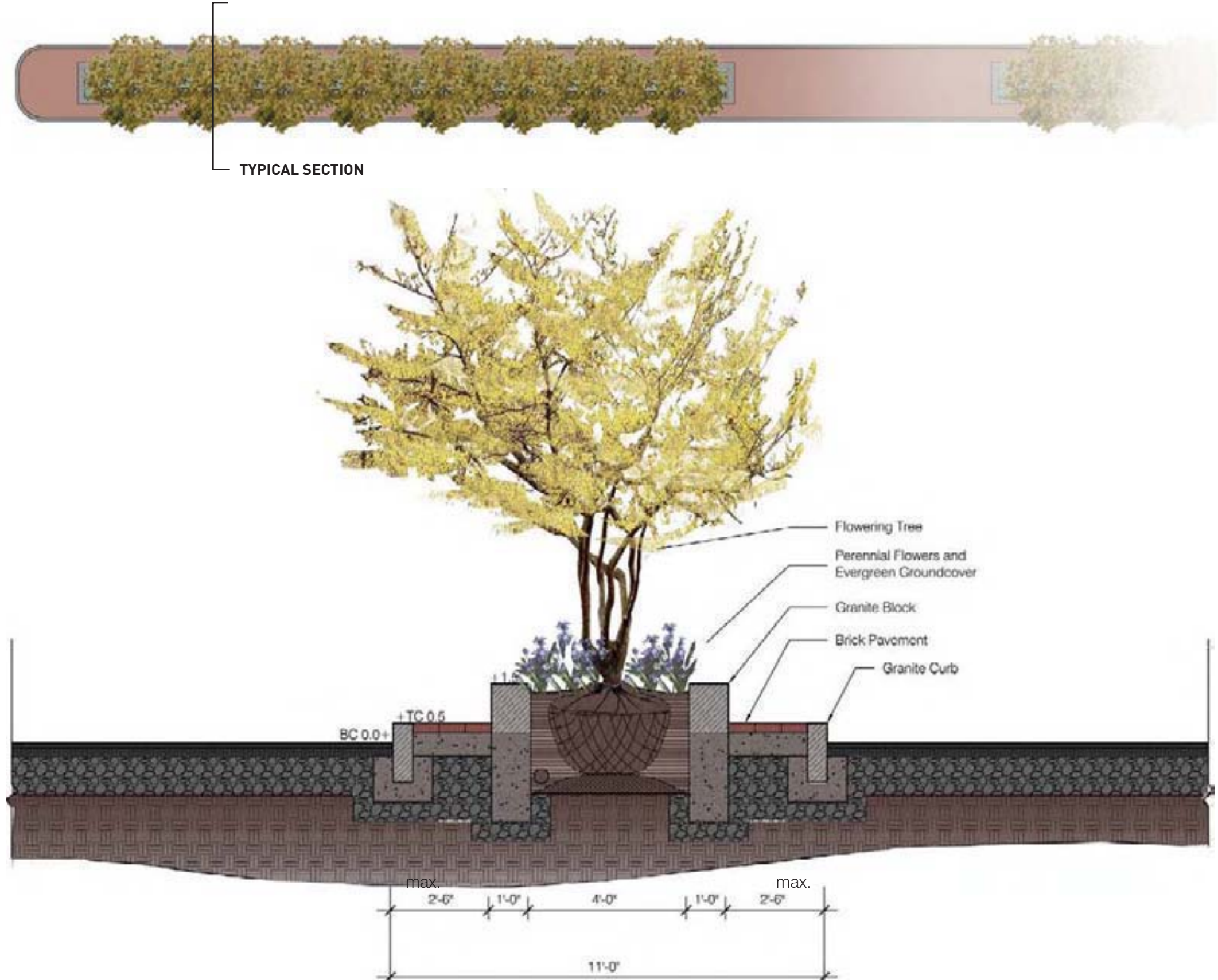
Planted Median

A planted median improves the aesthetics of the street as well as having a traffic calming function. On West Franklin Street along University Square, the median will capture portions of the left-turn lane while leaving openings in the median to permit left turns. This allows traffic to continue to flow smoothly.

The median will improve bicycle and pedestrian safety by reducing the number of conflict points between cyclists, pedestrians and vehicles.

As a sustainable alternative to the conventional planted median, a 'rain garden' median that provides storm water filtration capability is described in [Section 11.0: Sustainable Initiatives](#).

DETAIL: RAISED PLANTER MEDIAN



The raised planter median is comprised of brick edging for pedestrian ease of movement, as well as a central planter containing flowering trees and perennial flowering groundcover. This median will provide visual interest in color and texture of vegetation to the streetscape. In addition, the brick will delineate a pedestrian-friendly zone while the raised planter will protect tree roots and groundcover from damage from pedestrians and vehicles.

PAVED AND RAISED INTERSECTIONS: PRECEDENTS



A brick-paved, signalized intersection on East Franklin Street enhances pedestrian presence and safety.



A raised intersection captures part of the street as a vehicular zone; bollards may be added to protect sidewalk zone.



On a shared road, cars slow down for cyclists and pedestrians.



A raised road establishes a larger space that can be captured by pedestrians.



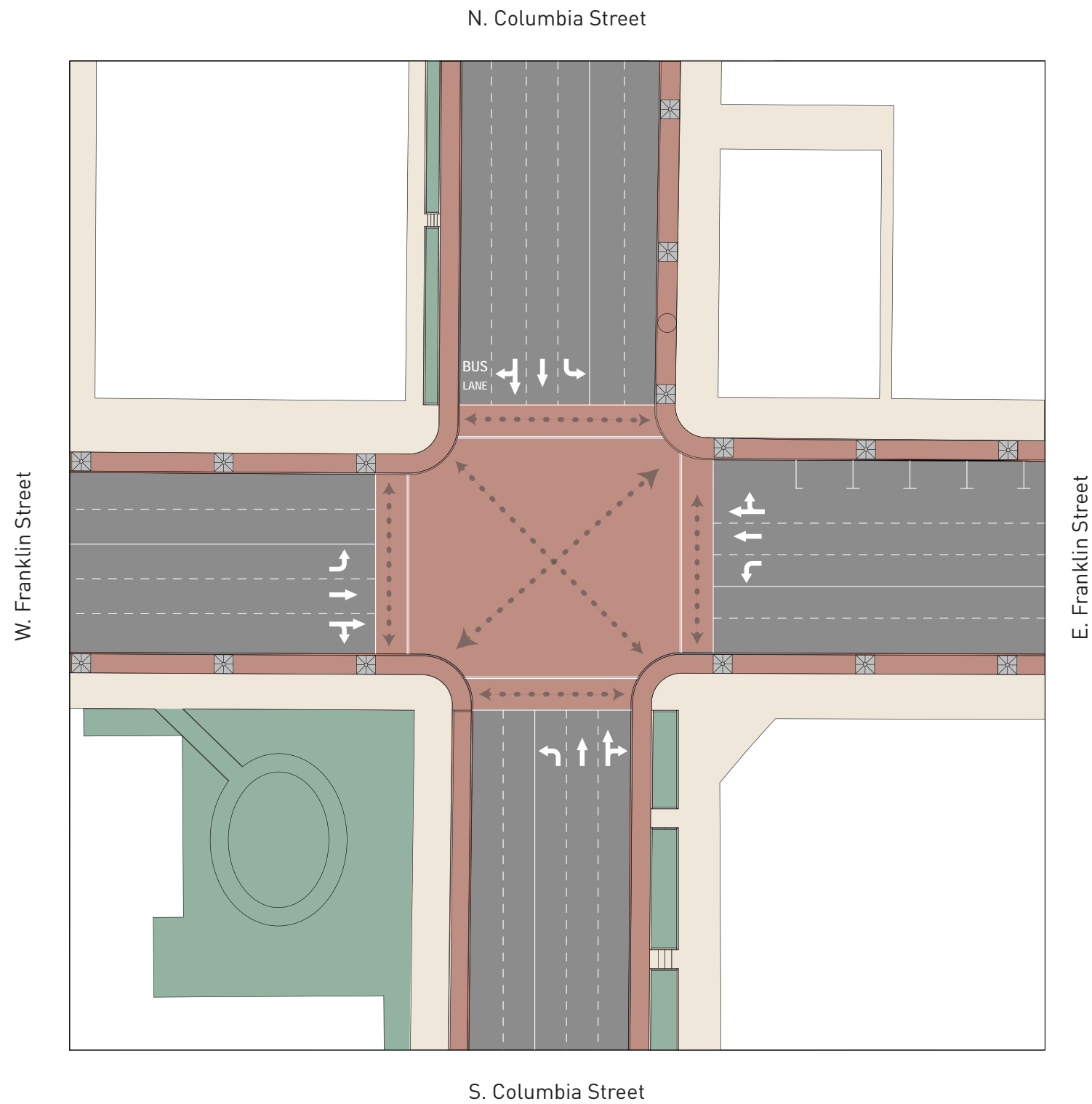
A raised and paved intersection extends the language of the sidewalk to the street.

PAVED AND RAISED CROSSWALKS AND INTERSECTIONS: PROPOSED LOCATIONS



Paved intersections are proposed at the intersections of West Franklin and Roberson Streets, West Franklin and Church Streets, and Franklin and Columbia Streets. The mid-block paved crosswalk between Columbia and Henderson Streets on East Franklin Street is existing.

On Rosemary Street, a raised intersection is proposed at the intersection at Church Street, and a paved intersection is proposed at the intersection of Rosemary and Columbia Streets. Along Franklin and Columbia Streets, paved intersections have been proposed instead of raised intersections due to regulations along state-owned roads. The Town-owned Rosemary Street permits greater flexibility to implement these pedestrian crossings.



Paved and Raised Intersections

A **brick-paved intersection** establishes a greater pedestrian presence at a busy intersection by bringing the visual language of the sidewalk pavement to the street crossing. This visual cue and pavement texture increases recognition of the crosswalk area by vehicles.

In addition, a brick-paved crosswalk captures a larger area for pedestrian movement. The 'Barnes Dance' concept refers to the ability of pedestrians to cross diagonally or in varying configurations rather than directly from one side to the other. An exclusive pedestrian signal phase, during which vehicle signals are red on all approaches of the intersection, allows pedestrians to cross in all directions at the same time. The diagram to the left illustrates an example of how a brick-paved crosswalk can be implemented at the intersection of Columbia and Franklin Streets by applying brick pavement spanning the full intersection.

A **raised intersection** has many of the characteristics of a brick-paved intersection but is elevated to the level of the sidewalk, such that the elevation of the road slopes up to meet the crosswalk. This offers dual benefits - by raising pedestrians within the view of vehicles and by forcing vehicles to slow down at intersections when they drive over the raised area.

The implementation of raised intersections is limited due to ownership of major roads by the state, which does not allow raised intersections. However, on Town-owned roads such as Rosemary Street, having a raised intersection or crosswalk is permissible.

PAVED AND RAISED INTERSECTION: COLUMBIA AND FRANKLIN STREETS



Existing Condition: Wide, busy intersection establishes a car-dominant zone within Downtown.



