

A teal-colored graphic background featuring white line-art icons of various urban elements: buildings, trees, a bus, a house, a bicycle, and a street. The icons are arranged in a stylized, illustrative manner.

MINI-CHARRETTE REPORT

Toward a "Pattern Language" of Corridors: *A Conference Workshop on Charlotte's Corridors of Opportunity*

31st Congress for the New Urbanism
Charlotte, North Carolina * June 1, 2023



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Report Date: January 21, 2024

INTRODUCTION

The 31st conference of the Congress for the New Urbanism (CNU) was held in Charlotte, North Carolina in late May and early June, 2023. Charlotte is representative of many cities in the US, which are struggling to provide more equitable opportunity for their citizens, and to deal with growing challenges like housing affordability, livability, and environmental quality.

In response, Charlotte initiated a project to regenerate and reconfigure a number of key corridors within the city, from sprawling, auto-dependent pathways to more multi-modal, livable, diverse places offering economic opportunity for all. The project is called "Corridors of Opportunity," and one such corridor is anchored by Freedom Drive, a major arterial running northwest from the city core.

As part of the CNU conference, the City and CNU representatives partnered to organize a "mini-charrette," or short collaborative workshop, to explore design and planning ideas for this key corridor. The participants included planners, architects, elected officials, nonprofit officials, and citizen activists from the USA and internationally. Approximately sixty individuals worked in eleven teams.

The participants employed the "pattern language" methodology developed by architect Christopher Alexander, and now widely used in a number of disciplines including urban planning and architecture. Pattern languages are methods to capture and transmit best practice design information, not as fragments but as contextual elements within a web-network or "language."

The process started with a round table discussion of key concepts and methodologies, and then following a break, proceeded into the hands-on workshop. Following are the descriptions of the two sessions from the CNU program:

ROUND TABLE DISCUSSION: TOWARDS A "PATTERN LANGUAGE" OF CORRIDORS

This was part one of a two-part session aimed at developing a "pattern book" for corridor design that could supplement the growing toolkit of city design strategies, promoted by the CNU, modeled after Christopher Alexander's famous work, A Pattern Language.

Design Strategies at Different Scales

Great corridors, ones that allow pedestrians cyclists, transit riders, and even those in motor vehicles to joyfully traverse a city, to engage with fellow residents and visitors and participate in the region's economy are fundamental to sustainable urbanism. The design leadership of such corridors should not be left to technocrats, trained to maximize the efficiency of one type of mobility (usually the car). Instead, such corridors should grow out of a collaborative and interdisciplinary design process led by the Town Planner.

In that spirit, this session looked at the Vehicular Corridor (at many scales) as Urbanism, meaning we delved into many of the details for making Corridors that serve the Pedestrian, the Cyclist, and the Economy as well as serving the Vehicle -- in short, transforming transportation corridors into active civic and public places, not just transportation arteries.

At the town or city scale we looked at:

1. Designing multi-way boulevard as an alternative to the freeway (before the freeway is built)
2. Retrofitting the overly wide arterial
3. Incrementally retrofitting the common suburban arterial
4. Calibrating the width of sidewalks
5. Applying the transect to the Corridor.

And at the neighborhood scale:

1. Corridors and street networks: balancing mobility and access
2. Alleys and greenways: new approaches, and cost-effective designs
3. New (and old) approaches to block structures
4. Getting it implemented: Overcoming barriers.
5. A more frequently spaced street network that disperses car traffic onto narrower corridors

We concluded the session with a discussion of how to integrate these two scales of Corridor Design.

WORKSHOP: TOWARDS A “PATTERN LANGUAGE” OF CORRIDORS

This was the second of a two-part session aimed at developing a “pattern book” for corridor design that could supplement the growing toolkit of city design strategies, promoted by the CNU, modeled after Christopher Alexander’s famous work, A Pattern Language.

Corridors of Opportunity Charrette

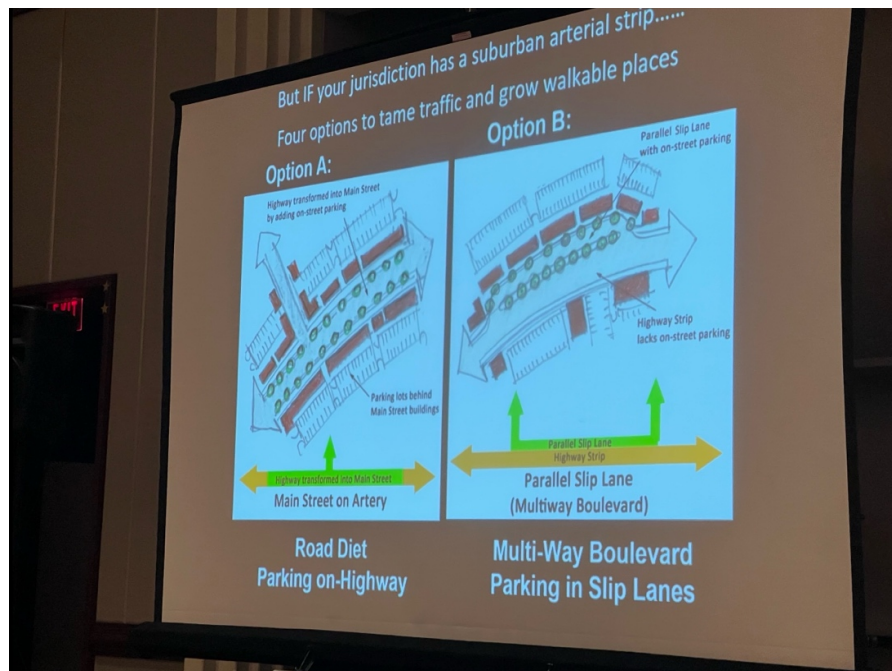
In November 2020, the City of Charlotte initiated its “Corridors of Opportunity” program to promote economic and urban development in six corridors across four different areas of the city. One of these, Freedom Drive, offers a challenging test case of how to retrofit its corridors into thriving, walkable, diverse neighborhoods,

using the tools and strategies of the New Urbanism. This session was a “roll up your sleeves” opportunity to develop new guidance for the city – and by inference other places – including patterns of street connectivity, lot and block structure, transportation networks, catalytic nodes, sidewalk design, public space design, suburban retrofit, placemaking, and more. The session built on the insight that corridors are crucial elements of any urban plan -- but they are much more than urban arterials. They are, and must be, public spaces, with a mix of uses and scales of connection to the surrounding urban fabric.

The goal of this session was to generate strategies for the improvement of Freedom Drive that can be distilled into a set of “patterns” suitable for assembly into a guidebook for town planners.

Workshop:

1. Introduction to the site, the “Corridors of Opportunity,” and the session goals (15 minutes)
2. Breakout into working groups (1 hour)
3. Reconvene, review (15 minutes)
4. Breakout into final working groups (1 hour)
5. Reconvene, final review (30 minutes)



ABOVE: Photos from the presentation, and the mini-charrette.

PRESENTATIONS AND ROUND TABLE DISCUSSIONS

The first session began with an overview of the project, and the agenda and goals for the two sessions. Presenters included:

Erin Gillespie, MCRP, is Strategy and Development Manager for the Charlotte Corridors of Opportunity project. In that role she develops, coordinates and implements strategies and recommendations tied to investments in the Corridors of Opportunity program. She leads special initiatives in talent development and key economic development projects in the corridors. She also coordinates and partners with stakeholders on specific projects, manages relationships and assures that Corridors work aligns with the City's equitable economic development goals.

Michael Mehaffy, Ph.D., FCNU, is a researcher, educator, author, and practitioner in urban development, planning and design, with an international practice. He has held teaching and/or research appointments in architecture, urban planning and philosophy at eight graduate institutions in seven countries.

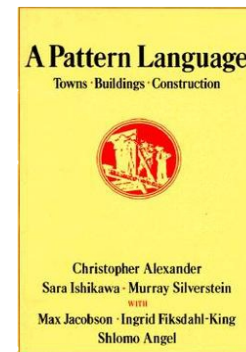
Neal Payton, FAIA, FCNU, is Senior Principal with TG+P and director of their West Coast office. His work focuses on the infill and refill of neighborhoods and downtowns. Working across scales, the common themes in all his efforts are connectivity to transit networks, a focus on walkable urbanism; infill; and public participation in the design process.

Laurence Qamar, RA, CNU-A, is an urban designer and architect with 35 years of experience establishing vibrant, walkable, and high valued mixed-use neighborhood developments in the Northwest and nationally. His award-winning work garners leadership recognition nationally among planners, developers, and the public, including his built successes as Principal Town Planner and designer of Seabrook, Washington.

THE PATTERN LANGUAGE METHODOLOGY

For the Charlotte Corridors project, we utilized a “pattern language” methodology to compile “patterns” – descriptions of particular design elements or approaches – as well as prototype design drawings, to indicate the ways that the corridors could be transformed and improved for the benefit of their residents.

A “pattern language” is a common methodology for sharing best-practice design solutions. The patterns can be applied in particular combinations that are unique to a given problem. In turn, the collection of patterns gathered for a particular project help to define its unique characteristics – its “DNA” so to speak.



In many fields today, pattern languages have been used successfully to develop and share effective design tools and strategies. In the field of urban planning and design, pattern languages have proven to be effective ways of sharing the vision and goals of a community, before getting into technical regulations (where they are needed at all).

Pattern languages were introduced originally in the 1977 book by the architect Christopher Alexander and his colleagues, *A Pattern Language: Towns, Buildings, Construction*. Since then, many authors have developed new patterns and pattern languages for a variety of specific projects.

Pattern languages can capture the community's aspirations for more livable neighborhoods, streets, and buildings, often following the precedents of great old neighborhoods and towns. These older patterns don't necessarily contradict “modern” standards for mobility, safety and convenience, but there is often a need to work out the ways that both goals can be achieved.

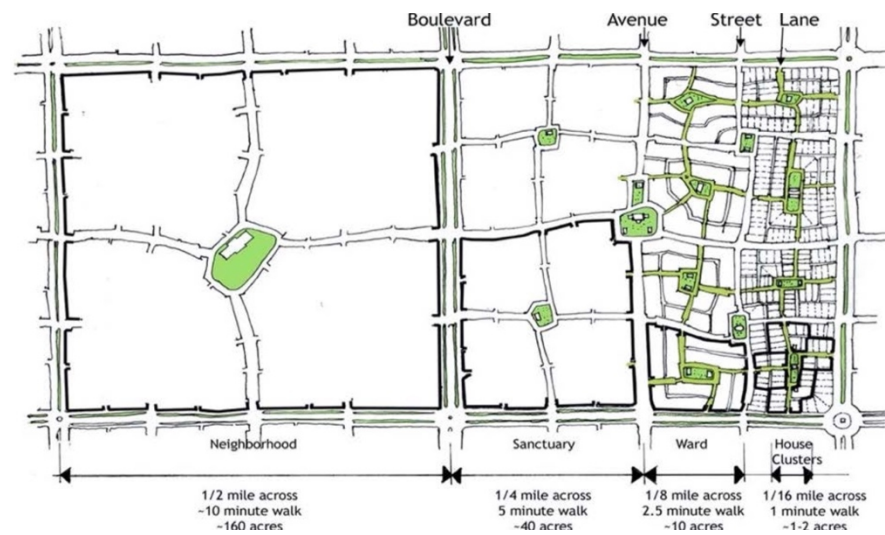
Unfortunately, since World War II, American suburban plans have too often thrown away many of the great old patterns and practices, in favor of the typical unwalkable landscape of strip malls, wide arterials choked with traffic, row after row of nearly identical houses, and other forms of development that compromise livability, desirability, and ultimately, even economic prosperity.

By contrast, market demand trends (and the preferences reported by stakeholders) are shifting toward more walkable, mixed, livable communities that offer transportation choice, and that don't rely exclusively on the car to get around. A more balanced, walkable community can also be a much more appealing, livable and economically valuable community. It can offer that economic opportunity to all citizens – which is the goal of the Corridors of Opportunity program.



A corridor in Oslo, Norway, featuring walkable and bikable paths, shops and services, and good transit service.

THE “SCALES OF COMMUNITY” OF URBAN CORRIDORS



Drawing by Laurence Qamar of a concept by Laurence Qamar, Michael Mehaffy and Ross Chapin.

An urban corridor is not just one street, but the surrounding streets and neighborhoods too. So it's very important that the streets are well-connected and walkable, providing good access to the main street of the corridor not only from vehicles, but from walking and biking too.

Great neighborhoods actually have a distinctive pattern of small, medium and large groupings of homes, businesses and parks. They range from about 1/16 mile across (simple clusters of homes and blocks) to 1/8 mile (about 10 acres, or what is sometimes called a “ward”), to 1/4 mile (40 acres, sometimes called a “sanctuary”) to 1/2 mile (sometimes called a “sanctuary”). By integrating in this way, neighborhoods can remain walkable and well-connected, without the need to own and operate a car for all trips.

At each scale of the community, there are appropriately sized public spaces too – small, medium and large parks and squares (shown schematically in the above diagram). There are also nodes of commercial that are small, medium and large, up to the scale of the main street of the corridor.

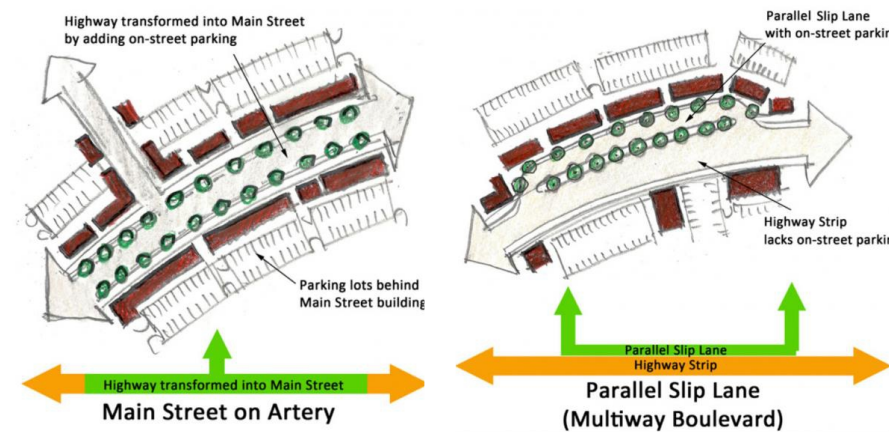
TRANSFORMING A CORRIDOR

There are a number of ways to transform a corridor that is dominated by automobiles, and therefore dangerous or unwelcoming to pedestrians and bicycles. These arterials are sometimes called “stroads” – they aren't streets, but are more like highway roads. While that may be fine for rural locations, it causes serious problems in cities and towns, where people need to be able to walk or bike safely, including walking or biking to transit stops.

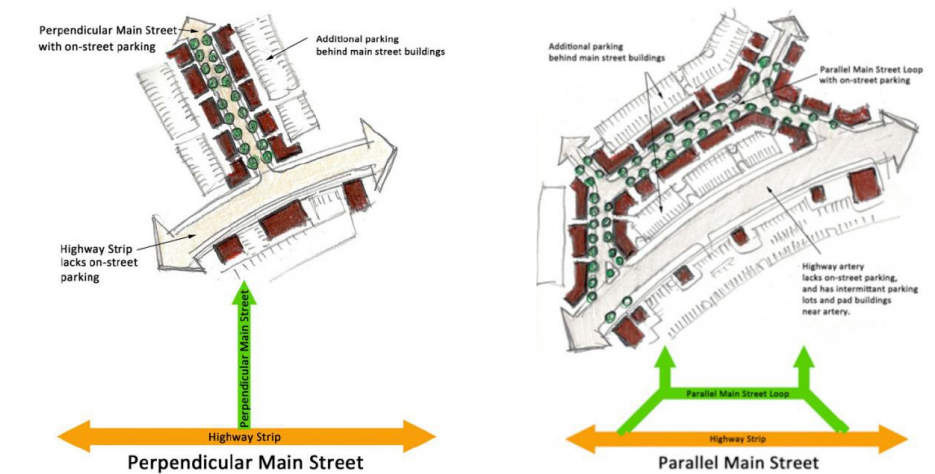
The strategies for transforming a “stroad” include:

Turn it into a main street. The highway becomes a main street by adding on-street parking, among other design changes that slow traffic to a speed that is comfortable for pedestrians. Mixed-use buildings are enabled to front the street and face sidewalks, rather than parking lots. The transformation may be just a few blocks long, or up to a mile or more.

Make a multiway boulevard. Build a parallel access lane (sometimes called a slip lane) at the side of the thoroughfare. The access lane is built for pedestrians and slow-moving traffic, and typically includes on-street parking. The center travel lanes are for higher-speed, high-volume traffic. Crossing such boulevards can be a problem, so special attention should be paid to pedestrian crossings at intersections.



Make a perpendicular main street. In this case, the pedestrian-oriented main street connects to the car-oriented road at a T intersection. The on-street parking is located along the main street, off of the highway, which remains designed for higher-speed traffic. Special attention must be given to crossing the highway at the end of the main street, so people on both sides of the thoroughfare can access the mixed-use center. The mixed-use buildings at the T intersection should be designed as a gateway, increasing visibility of the main street to through traffic.



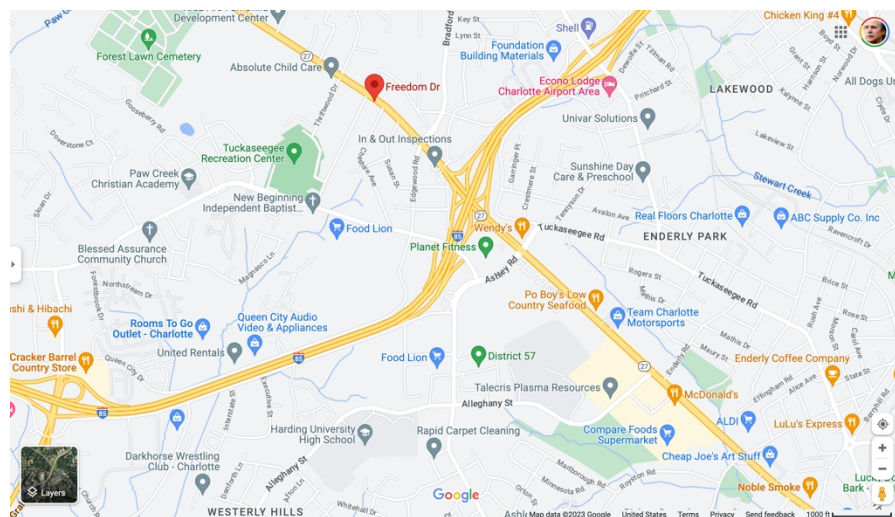
Make a parallel main street. In this design, the main street peels off of the artery and connects at both ends. This design is highly visible, because the main street connects to the artery in two places—both entries may have a gateway features. Also, people turning on to the main street can drive through without going far out of their way.

THE PROJECT AREA

The corridor we studied for the mini-charrette was Freedom Drive, northwest of downtown. This is a relatively diverse area, with a major arterial dominated by automobiles, dangerous to pedestrians, and in need of revitalization.



This area is bisected by Interstate 85, and includes a former mall site that now has government offices and other replacement facilities.



The mall can be seen just to the southeast of Interstate 85, along with other auto-oriented businesses.



As can be seen in the street view, there are very large setbacks, and large expanses of vacant land including medians and landscape areas. There are also very large parking lots that are often under-utilized.



The arterial includes as many as eight lanes, making it difficult and dangerous for pedestrians to cross. In addition, the crossings are very far apart, as far as 3,000 feet, or over 1/2 mile. This distance will discourage most pedestrians, and force them into cars to drive even short distances.

TEAM 1



This team focused on the former mall site, using it as a catalyst for regeneration of a wider area with a pattern they call “Center of Centers.” Many different sub-centers of education, recreation, civic uses, and community services would be brought together (including existing ones) into a new district, along with adjacent homes and other businesses. A new street network would connect these centers more thoroughly to one another and to the surrounding community. Former parking lots would be redeveloped.

Outline Pattern Language:

CENTER OF CENTERS. Many community activities and services are brought together to serve adjacent residential and commercial.

ALLEYS THAT REINFORCE. Alleys allow the adjacent streets to be higher-quality pedestrian spaces, by eliminating garage doors and driveways. At the same time, the alleys should be good-quality spaces in their own right.

MAIN STREET THAT ENCLOSES. Streets are “urban rooms” that need to have spatial definition and clear edges, rather than extending endlessly in perfectly straight lines. They can enclose by terminating in T-intersections, or by using curves and bends.

GREEN SPACE THAT FRAMES. Green spaces can not only offer usable outdoor space, but also serve as boundaries and visual frames of urban and architectural spaces.

COMMUNITY CENTER. The existing Valerie C. Woodard services center would be expanded and made into a regional services center with not only government services but also nonprofits and other community organizations.

TEAM 2



This team also focused on the former mall site, and developed a proposal for its redevelopment as a catalyst. They began with a diagnosis of the surrounding existing conditions, using it as a basis for the new plan. Among the characteristics are the fragmentation caused by Freedom Drive and the Interstate, the lack of pedestrian-friendly features, and the under-utilized mall area.

Outline Pattern Language:

STITCH TOGETHER. Use a new network of streets to connect the currently fragmented urban fabric, including streets that cut through the existing mall site.

BROADEN RESIDENTIAL. Connect to existing residential areas, and bring in residential to the current mall site.

EXPAND COMMERCIAL-RETAIL AVAILABILITY. Provide a greater mix of uses that will support more viable shops and businesses.

ACTIVITY NODES. Provide pockets of activity in natural breaks.

SUBORDINATE THROUGH TRAFFIC. Use traffic calming and related strategies to prioritize pedestrians and local traffic.

DROP AND CAP. Where through traffic is needed, drop the street and cap over it, providing public space for pedestrians, bikes and/or transit.

TEAM 3



This team chose a smaller area just northeast of the former mall and along Freedom Drive. They began with a list of “critical considerations,” and then they applied patterns from the original book *A Pattern Language*. Some of their “critical considerations” are also pattern-like, and could be developed into more local patterns for this area (as suggested in the list).

Outline Pattern Language:

CONNECTIONS TO THE NEIGHBORHOOD. There should be better access and connectivity to the surrounding residential areas.

STREET NETWORK WITH SMALL BLOCKS. There is a need for a new grid of streets that form smaller and more walkable blocks, as well as opportunities for enclosures and terminated vistas.

PEDESTRIAN NETWORK. More and better pedestrian crossings are needed, as well as mid-block crossings that allow pedestrians to take shorter pathways.

GATEWAY SCULPTURE. There is an opportunity for an iconic sculpture that serves as a gateway to the area, and creates identity.

Patterns from the original book:

LOCAL TRANSPORT AREAS. Break the urban area down into local transport areas (shared spaces).

COMMUNITY OF 7,000. Give local control to communities of 5,000 to 10,000 persons.

NINE PERCENT PARKING. Do not allow more than 9% of the land in any given area to be used for parking

INTERCHANGE. Create connected, mixed-use interchanges in the web of transportation.

DEGREES OF PUBLICNESS. Give residents a range of choices in how exposed or secluded their home is.

WORK COMMUNITY. Create small clusters of 10-20 workplaces which have their own courtyards.

MAIN GATEWAYS. Mark every boundary in the city which has important human meaning with great gateways.

TEAM 4



This team proposed a new double-square scheme forming an axis perpendicular to Freedom Drive, which straddles a “bus boulevard”. A “connector peel” would allow vehicles to enter, loop through the neighborhood, and mix safely with pedestrians. A new bike boulevard would also allow bicycles to cross the neighborhood safely.

Outline Pattern Language:

PARK DIVIDER/SQUARES. New “village squares” that provide green space and dropoff locations for those coming to the district.

BUS BOULEVARD. Re-structure Freedom Drive to be more multi-modal, with bus turnouts and bus stops, and safer and more comfortable pedestrian crossings.

BIKE BOULEVARD. Create a perpendicular new bike pathway to cross the neighborhood and connect to the CONNECTOR PEEL.

CONNECTOR PEEL. Create a new parallel street to Freedom Drive that allows vehicles to enter at low speeds, and that is safe and attractive for pedestrians.

ROUNDBOUT ENTRY. Create a safe entry point that slows cars and draws traffic into the neighborhood.

COMMUNITY SERVICE CENTER. Create a new focal point that provides services and offers a gathering place within the community.

TEAM 5



This team chose to make a new perpendicular town center street from Freedom Drive – the other alternative discussed in our roundtable. This new street would have a generous median, and a grid of streets extending on either side.

Outline Pattern Language:

MULTI-MODAL NETWORK. Integrate pedestrians, bikes and transit as well as cars. Connect to existing network intersections.

RESIDENTIAL SUPPORTING PEDESTRIAN-ORIENTED COMMERCIAL. Bring in more residential uses, and assure that they have safe and attractive pathways to access the new commercial uses.

CORRIDOR FRAMING. Base the width on the building height, and vice-versa (in the range of 1:1).

TERMINATED VISTAS. Draw visitors to the site with attractive views at the ends of streets.

FINISH THE GRID. Extend the street network to form a more coherent grid pattern.

TRAFFIC FRICTION. Use street trees, narrow or repeating facades, narrow lanes, and other traffic-calming features to make a safe space for pedestrians.

ORTHOGONAL PEDESTRIAN NETWORK. Major pedestrian paths should be at least 1/8 mile, but need not necessarily be aligned with streets.

ON-STREET PARKING WITH STRUCTURED PARKING BEHIND. Provide a parking buffer, with more parking inside.

WELCOMING STREETSCAPES. Wide sidewalks and facades with active uses, and streets creating a sense of enclosure.

VISIBLE STREET CROSSINGS. Make pedestrian crossings easy for cars to see, and safe and inviting for pedestrians.

SERVICE ALLEYS AS SHARED USE SPACES. Consider alleys as places where cars move very slowly and pedestrians and bikes are able to share the space, perhaps with amenities like benches and play areas.

TEAM 6



This team focused on a retrofit of the mall site, proposing a new gridded block system with smaller blocks and buildings. Visual axes focus on buildings and/or green spaces, some with water features.

Outline Pattern Language:

HUMAN-SCALE DEVELOPMENT. The blocks and buildings are smaller, and more easily related to pedestrians.

WALKABLE GRID. The street pattern is highly interconnected and easily navigated by pedestrians.

SHARED STREET. One or more streets are shared with pedestrians and vehicles, which are restricted in their speeds.

ACCESS POINTS. Key access points provide visual connectivity to buildings and/or green spaces, with inviting pedestrian features.

BUFFERING. The edges are buffered from noise and vehicular danger.

SCHOOL CONNECTIVITY. The walkable grid provides safe and close access to school.

SEPARATE COMMUNITY. The mall area forms its own identifiable community area, well-connected to the outside but also well-structures as its own center.

CONCENTRATED PARKING. Places are provided for parking in out-of-way locations that still provide good access to the buildings.

SOFT STRUCTURE. There are layers of plants and open spaces that soften the edges and the buildings within.

LIMITED SPEED AT BOUNDARIES. The speed of the outer streets is highly restricted so as to protect the inner areas from noise and vehicular danger. (See also **SHARED STREET.**)

VISUAL TAPER ON AXIS. The main pedestrian axis tapers outward as it leads to a major focal point at one end.

TEAM 7



This team also focused on retrofitting the mall area with a new block structure, this time with a clear “main street” and smaller capillary streets radiating outward from it. The pattern followed the existing pattern of the mall and its parking areas.

Outline Pattern Language:

FOLLOW THE EXISTING NETWORK STRUCTURE. Create blocks 300' to 500' following the existing pattern of buildings and parking areas.

DISPERSE TRAFFIC. Provide more routes and options to circulate.

ELIMINATE CUL-DE-SACS. Provide greater connectivity and a walkable street grid.

CREATE PEDESTRIAN-FRIENDLY STREET INTERSECTIONS. Use more frequent and narrower streets, and more irregular intersection designs that slow cars and shorten distances for pedestrian crossings.

EXTEND GREENWAYS. Connect them across the Interstate and through larger blocks, breaking them into smaller and more connected blocks.

TEAM 9



This team proposed redevelopment of Freedom Drive into a series of distinct nodes of mixed-use development, leading to the mall area. The mall is kept, but new “liner buildings” enclose the streets surrounding the mall, creating smaller parking lots behind them.

Outline Pattern Language:

PATHS AND NODES. Cluster development into a series of mixed-use nodes with commercial and neighborhood services. Space them roughly $\frac{1}{4}$ mile apart, with a distribution of small, medium and large-size nodes.

MALL RETROFIT NODE. Make the mall area the largest node in the system, with a retrofit of the existing building and marking areas into a new mixed-use neighborhood center.

PERIMETER BUILDING. Streets are enclosed with long thin buildings and parking behind.

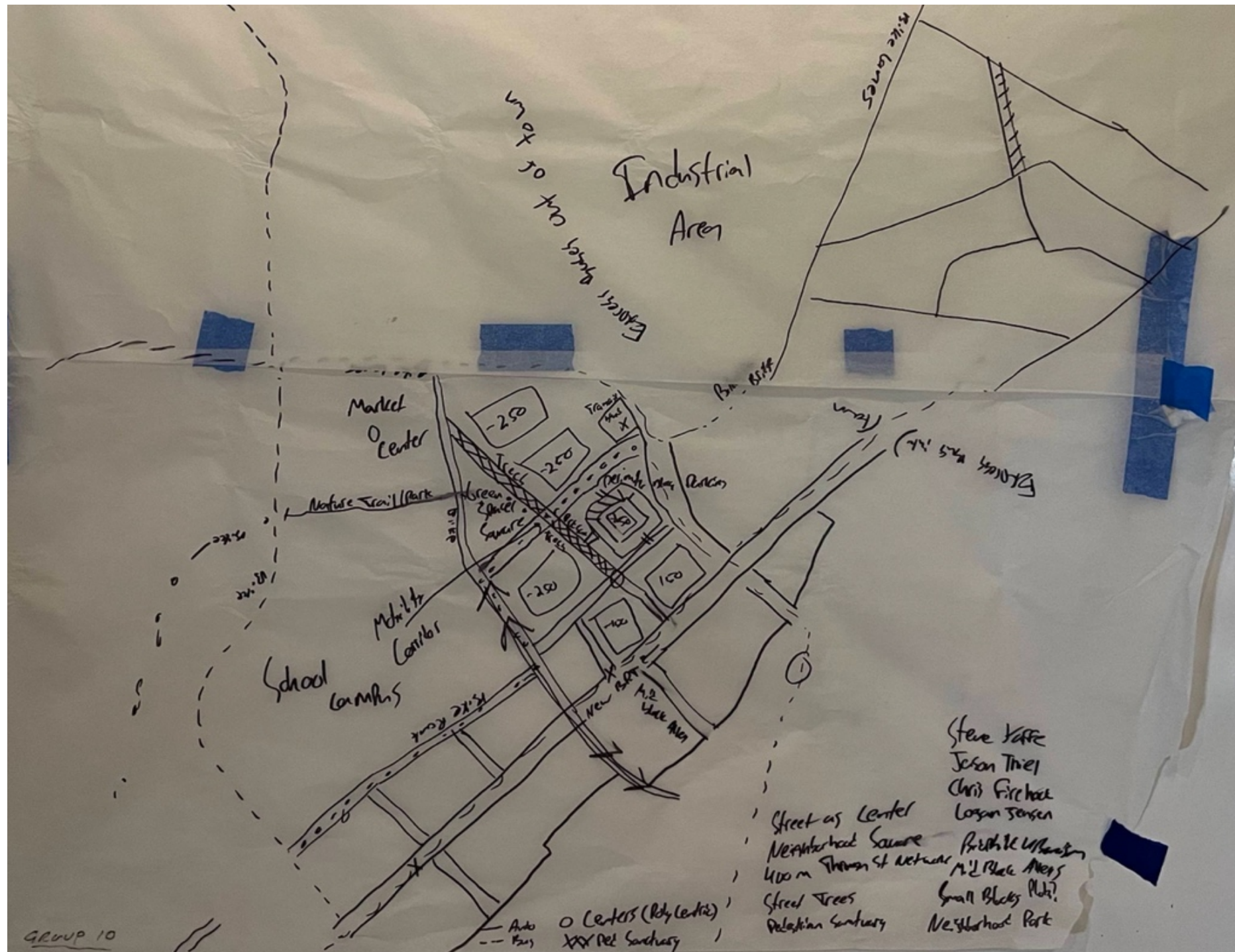
CONNECTION THROUGH MALL. The original mall building is kept, but a new street runs through and below it, providing greater connectivity between the two sides.

MULTI-WAY BOULEVARD. Transform Freedom Drive into a walkable, mixed-mode arterial with provisions for bus and bike access.

FOLLOW THE PARKING LOTS. Use the existing pattern of parking lots and drive lanes to establish new walkable streets and perimeter buildings.

NEW STREET CONNECTIONS. Where buildings and blocks are larger than 300 feet, provide new connections for pedestrians and, ideally, vehicles also.

TEAM 10



This team proposed a new neighborhood of small blocks and narrow gridded streets, well-connected to adjacent school, industrial area, and residences.

Outline Pattern Language:

MOBILITY CORRIDOR. A higher-speed corridor allowing through movement of vehicles, while still protecting pedestrians and slower-moving vehicles (e.g. as a multi-way boulevard).

STREET AS CENTER. Streets are places of pedestrian activity and interaction, including frequent plazas and green spaces.

400M THROUGH STREET NETWORK. There is a walkable street grid that has pedestrian-protected crossings within at least 400 meters (¼ mile). This is also the space of major through streets, with smaller streets as shared lanes through “pedestrian sanctuaries”.

PEDESTRIAN SANCTUARY. Within the ¼ mile or 400 meter through street grid, provide narrower and more irregular streets, with vehicles moving slowly and sharing the streets with pedestrians.

STREET TREES. Provide trees along all streets as well as in medians where appropriate.

NATURE TRAIL AND PARK. Adjacent to the school campus, provide a trail with natural landscape areas, leading to a natural park.

BIKE LANES. Provide pathways for bicycles, but not in a way that effectively widens the street. Integrate the bike lanes with parallel slow streets, or sidewalk areas behind parking.

SMALL BLOCKS AND PLOTS. Keep blocks and plots at a fine grain so that they are suitable for smaller users. Larger users can assemble smaller plots and even blocks as needed (i.e. with bridges and tunnels, or across slow-speed streets).

APPENDIX: Team Notes

Jeff Jewell <jjewell@newbraunfels.gov>

Thu, Jun 1,
1:48 PM

Jeff Jewell
Leslie Creane

Principles: stitch together uses divided by freedom, broaden existing residential neighborhoods with transitions to greater intensities

Bisecting mall with extension of tuckasegee T intersection by punching tuckasegee into the development

Nodal focuses at existing intersections and outgrowth of activity nodes with the creation of new ones

Subordination of existing thru traffic with grade separation

Utilize existing low spots with natural drainage areas to begin a linear green space that stitched the place together

Promote more grain with 300-400 foot blocks

Freedom is an important commuting corridor so a focus on BRT with utilization of existing lanes would be helpful.

If possible evaluate freedom for dropping and capping.

Paglia, Tanya <Tanya.Paglia@portlandoregon.gov>

To cmoore@rogers.ar.gov jshull@bellevuewa.gov
filbc83le@mac.com, sarah.cook@cityofclarksville.com,
contact@sabinadimitriu.com

Group members:

Christina Moore
Janet Shull
Philip Harris
Tanya Paglia
Sarah Cook
Sabina Dimitriu

Team 7 members:

Javier J Hernandez, javierjhernandez@picorivera.org
Heather Maloney, hmaloney@huntersville.org
Izzy Norman, inorman@foothillsregion.org
Jeff Fraser, jfraser@codastudio.com

Team 8 Members:

Myra Schwarz
Catherine Hartley

Team 10 Members:

Steve Yoffe
Jason Thiel
Chris Firehock
Logan Jensen