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Achieving the Vision: Options for the College Park US Route 1 Corridor

U.S. EPA Smart Growth Implementation Assistance

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EXECUTIVE SUMMARY

The City and the citizens of College Park have a vision of US Route 1 corridor leading into College Park and the University of Maryland as a great street and welcoming gateway. The City and the citizens also agree that the corridor is not delivering on its potential. The corridor can be improved to produce a greater sense of place, to better reflect the distinctive character of the community, and to function better as a transportation corridor.

Previous planning efforts have sought to address these issues. Residents and local leaders created a vision—expressed in the 2002 Sector Plan—for a US Route 1 that is walkable and bikeable, lively, functional, that enables a range of businesses (new and existing) to complement one another, and that manages traffic while serving as a gateway to the community and the University. The Sector Plan envisions a community Main Street with shops, homes and offices mixed together to create a vibrant backbone to the City of College Park. However, after four years of implementation, the vision is not being realized. The tools that were established in the Sector Plan, such as the M-U-I Zone, have not produced the results that residents expected while development continues to occur. As part of its response to this understanding, the City of College Park requested assistance through the US EPA Smart Growth Implementation Assistance Program to understand the disconnect between the vision for the US Route 1 corridor and the development that is occurring, and to get the tools to achieve the vision.

In response to the City's request, and drawing on best practices from around the country, local data, and the expertise of local residents and professionals, the EPA Assistance Team worked with local partners to develop options for the City and County to consider, which, if they choose to implement them, should help move the US Route 1 corridor toward the vision.

The city and county may see more success in achieving the Sector Plan vision by focusing on four categories of activities:

1. Physical development of land uses along the roadway (p. 13)

   Goal: *Provide more certainty in the development process and use it to help get the development that we want.*

   Primary options include:

   - Cluster retail at roughly three nodes rather than stringing it out along the entire corridor
   - Create a form-based development code

2. The physical design of the roadway right-of-way (p. 19)

   Goal: *Design US Route 1 to be a pedestrian-welcoming, retail-active boulevard that supports the desired "Main Street" function at specific nodes.*

   Primary options include:

   - Design a "complete street" with a target speed of 30 mph.
   - Create sidewalks to support pedestrian-oriented retail and street-oriented housing.

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3. Transportation management in the corridor (p. 27)

   Goal: *Transform the development along the corridor in accordance with the vision and still make the traffic work.*

   Primary options include:

   - Implement access management with a median, interconnected parking, and system of rear access lanes.
   - Implement a comprehensive Transportation Demand Management plan that meets travel demand through a complete set of travel choices, and takes advantage of the shorter travel distances produced by the land use changes in category one.

4. Development review process and collaboration (p. 30)

   Goal: *Fix the development process (and its implementation) to provide: predictability, certainty, and flexibility; fairness to developers, citizens, property owners, and business owners; economic feasibility; and, respect for neighborhood values.*

   Primary options include:

   - Revise the M-U-I Zone to implement the vision for the US Route 1 Corridor.
   - Address need for land assembly.

The report discusses current conditions in the City of College Park including an analysis of the local market, city and county development regulations, and comments from local participants. The report then outlines key steps the city and county can implement to help achieve the Main Street vision for US Route 1.

The Appendices include examples of other communities that acted to transform auto-oriented strip commercial corridors into more pedestrian-oriented “Main Streets” and welcoming community entrances. Three examples of successful planning for such transformations include: El Camino Real in Palo Alto, California; 28th Street in Boulder, Colorado; and Columbia Pike in Arlington, VA. Other case examples related to corridor development in university towns include the University of Washington and Stanford University.

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1 INTRODUCTION: CITY OF COLLEGE PARK SMART GROWTH IMPLEMENTATION ASSISTANCE

The City of College Park, a community of leafy neighborhoods and 25,000 residents located in Prince George's County, Maryland, is poised to remake US Route 1 as the city's Main Street. US Route 1 is the main spine of the community. College Park's portion of US Route 1 is lined with auto-oriented uses with surface parking generally separating businesses from the street. In the past 15 years, population growth has been slow, but officials expect a change due to university growth and new development around the city's Metro station. US Route 1 is viewed by the City, residents, the county, and the university both as an area primed for growth and redevelopment, and as a good place to put new growth.

Recent planning has focused on establishing a vision for that growth and redevelopment. The 2002 Sector Plan for the corridor supports the vision contained in the City of College Park's 1995 Comprehensive Plan to transform the strip development character of US Route 1 into a revitalized gateway boulevard.[1] The Sector Plan included increased densities and the creation of a Mixed-Use-Infill (M-U-I) district to encourage mixed-use development in the gateway.

Goals of the plan include:

1. Creating an attractive and vibrant gateway to the City of College Park and The University of Maryland as well as providing for concentrations of vertical mixed-use development;

2. Supporting public sector reinvestment in the reconstruction of the gateway to complement new land use regulations and new development; and

3. Encouraging quality development by utilizing mixed-use infill zoning and urban design concepts, streamlining the development review process, and suggesting market-oriented incentives and partnerships[2].

City officials and other stakeholders expected that the Sector Plan would deliver a new US Route 1 based on their vision. It is now clear that the great place they expected is not being built. Development applications along the corridor have not been consistent with the vision. The desired mixing of uses has not been achieved. Building heights exceed the intended allowable levels. Buildings have not created a consistent and compatible massing. Rather, sites continue to be developed independently with little relation to adjacent uses. There is little or no connection between sites in design, access, or circulation. To use examples from other locations, the community was aiming for, roughly, Figure 1a, and is getting, roughly, Figure 1b. In many of the variables governed by codes such as overall density, overall use mix, and sidewalk provision, the two corridors illustrated are equivalent. Yet they are very different places.

[1] 2002 Sector Plan, p. 23
[2] 2002 Sector Plan, p. 23-24

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Figure 1a

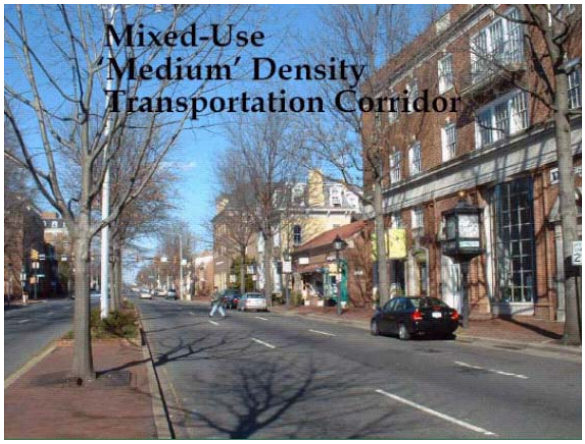

Figure 1b. On paper, these look similar.

Officials realized that the corridor would not develop as intended without a revised strategy. The City requested assistance through the US EPA Smart Growth Implementation Assistance Program to understand the disconnect between what is wanted and what the City is getting in the US Route 1 corridor, and to get tools to help achieve their vision. EPA assembled a Smart Growth Implementation Assistance Team (Team) to work with city officials, Prince George's County officials, representatives from the University of Maryland, local leaders, developers, community representatives, and others to conduct stakeholder interviews and a facilitated meeting regarding topics of economic development, zoning and land use, and transportation. The Team's site visit occurred January 19-21, 2006.

As part of those meetings and consultations, the Team gained insight into the 2002 Sector Plan including the application of the Mixed-Use-Infill (M-U-I) zone, the development review process, proposed developments, and the characteristics of the US Route 1 corridor. The Team developed options for actions the City could take to achieve the vision for a community that had national and local retailers interspersed with restaurants and services while accommodating the existing businesses that have been loyal to the city. This new US Route 1 would be walkable and include buildings and land uses that created unique and identifiable places.

The remainder of this Final Report to the City of College Park:

1. Summarizes the Team's work with the City and citizens;

2. Presents the ideas generated from the Stakeholder Interviews and Facilitated Meeting; and

3. Presents options the City could use to move toward clarifying and achieving the vision established in the 2002 Sector Plan.

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2 CONTEXT AND EXISTING COMMUNITY CONDITIONS

2.1 The Charge to the Team

Recognizing that the vision laid out in the 2002 Sector Plan was not being built, the City of College Park applied to the US EPA Smart Growth Implementation Assistance Program. The City's goal was to:

1) understand why development was not meeting expectations, and
2) develop additional tools with which to achieve the vision through changes to the plan, codes, and policies.

The study area was designated as land adjacent to US Route 1 and its right of way from Paint Branch Parkway to I-495, the Capital Beltway (see Figure 2). The Team's charge was to provide this assistance.

The Team consisted of:

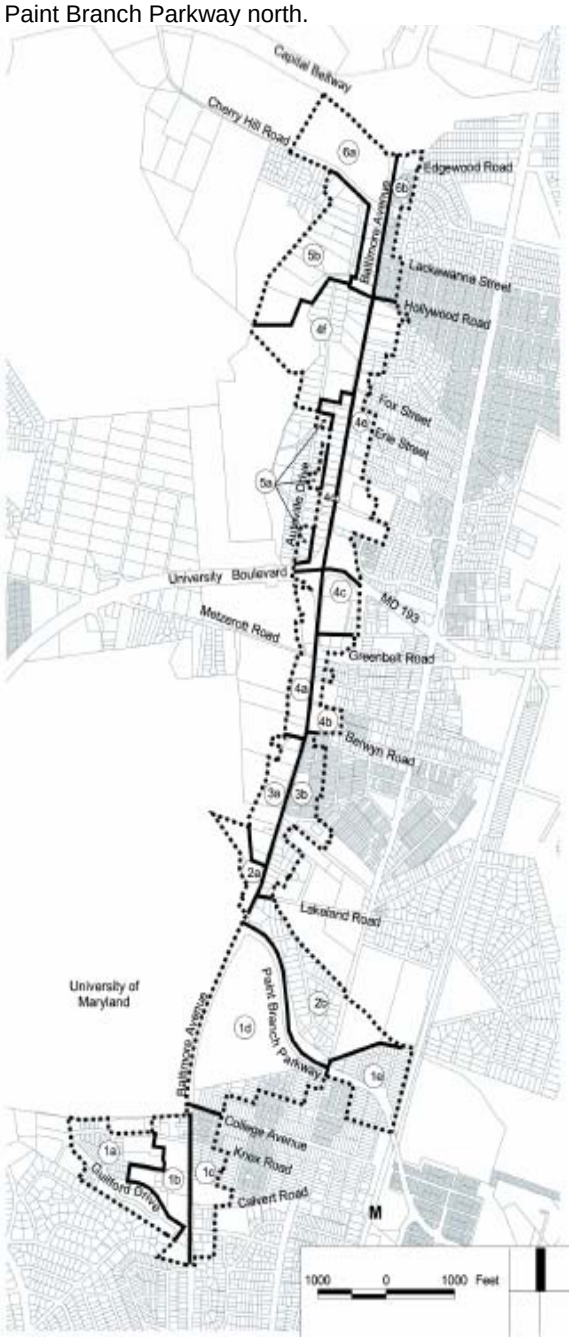
- Reid Ewing, Research Professor and Associate Professor, University of Maryland
- Geoffrey Ferrell, Partner, Ferrell Madden Associates
- Mary Madden, Partner, Ferrell Madden Associates
- Anita Morrison, Principal, Bay Area Economics
- William Schroeer, Vice President, ICF Consulting
- Jeff Tumlin, Principal, Nelson/Nygaard Consulting Associates

Geoffrey Anderson and Kevin Nelson, US EPA, provided additional support.

On-site work consisted of stakeholder interviews and a facilitated public meeting focused on three topics: economic development; land use, zoning and design; and transportation.

The Team analyzed demographic and market trends, examined the regulations and policies governing development in the City of College Park and Prince George's County, and met with a diverse set of local stakeholders to understand the context of development along the US Route 1 Corridor.

Figure 2: College Park US 1 Corridor Sector Plan Boundaries. This report focuses on the section from Paint Branch Parkway north.



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After reviewing a range of information, the Team's judgment was that obstacles to achieving the community's goals lie in three main areas:

1. The Mixed-Use-Infill (M-U-I) zoning classification, its implementation, and the City's expectations for it;

2. The development review process between the city and the county; and

3. The US Route 1 Right of Way, both current conditions and future plans.

2.2 Market Analysis

The US Route 1 Corridor is characterized by a predominantly young population, multiple transit options, and a history of moderate investment. The market analysis conducted by the Team identified opportunities for future residential growth, nodes of retail development, and demand for hotel rooms.

1. Demographics

The US Route 1 Corridor is characterized by the following percentage of land uses: Approximately 30% commercial, 14% residential, 18% the University of Maryland, with the rest right-of-ways, parkland and undeveloped areas.[3] About 300 businesses are situated along the corridor, comprising over 1.6 million square feet of commercial, retail, office, services, and personal service space. Residential uses are divided among single-family homes, townhouses, and apartments. The neighborhood south of MD 193 and west of US Route 1 contains mainly large single family homes, some of which have been converted to housing for university students.

The Washington Metro heavy rail has a stop in College Park, as does the Maryland Transit Administration's MARC commuter rail. The joint station is not in the study area, but is close by. In addition to the Metrorail service, the City is served by several Metrobus routes, and a County bus system as well as one coordinated through the University. Approximately 5,000 daily riders use the University Shuttle. Average daily travel on US Route 1 is in the 45,000-vehicle range.

Figure 3: Population and Age Distribution Profile, 2005

	City of College Park	College Park Market Area	Prince George's County	Washington Metropolitan Area
Population	26,277	40,404	854,309	5,239,117
Age Distribution				
Under 18	10.4%	15.3%	26.2%	25.1%
18 – 24	49.4	36.6	10.2	8.7
25 – 34	11.5	14.1	13.9	14.3
35 – 44	9.0	11.3	16.2	16.7
45 – 55	7.5	9.3	14.7	15.2
55 – 64	5.3	6.2	10.2	10.6
65 and over	6.9	7.2	8.6	9.5
Total	100.0%	100.0%	100.0%	100.0%

Sources: US Census, 1990 & 2000; Claritas, Inc.; Bay Area Economics, 2006.

[3] 2002 Sector Plan, p. 17.

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Figure 3 illustrates the population and age distribution profile for the City of College Park and surrounding areas. The table reflects the University of Maryland's significant presence. Students, represented in the 18-24 group, comprise nearly half of the city's population in 2005 compared to about 9% of the Washington Metropolitan Region.

2. Growth Trends

College Park has been growing slowly over the last twenty years. Growth and development pressure has been limited in recent decades. In the late 1990s, the City, County and University each determined that much would be gained from redeveloping the US Route 1 corridor to spur future growth. While other communities throughout the metropolitan area grew with cheap land, limited development costs, and favorable zoning, among other factors, College Park did not attract substantial development.

That situation is changing. Regional forecasts of population growth suggest that the Washington region will need to accommodate roughly 2 million new residents over the next 30 years.[4] Regional congestion and unpredictable highway commutes are leading many to favor close-in communities, particularly those with Metro access.[5] College Park is well situated to attract new residents, but doing so will require redevelopment and higher densities, as the city is largely built out. Advantages such as transportation choice and the willingness to amend development guidelines will enable the City to both attract and accommodate additional housing, jobs and retail. Further, in the last five years, housing economics have improved and developers have begun to recognize the city's potential for new housing.

3. Demand for Housing

Two major factors affect the demand for housing in College Park. The first is a large portion of the student population that is not housed on campus, but rather in College Park and elsewhere across the region. The second is the availability of jobs in College Park. Many of these are filled by local residents, but a significant number of employees travel from other areas to work in College Park. Demand from both student and commuter markets could be met in part by development in the US Route 1 corridor.

Demand for housing and services in the College Park area is significantly affected by the presence of the University. In Fall 2005 total enrollment (undergraduate and graduate) was 35,369. The University also employs 12,228, creating a total of nearly 50,000 people learning or working at the school. While many people live on or near campus, a significant number do not; 8,250 students live on campus, only 22% of all students. Housing students away from campus creates traffic and decreases the retail and services that the area around the university can support. Providing additional student housing in the corridor could reduce congestion because students would have less need to drive to campus and other activities.

The second factor, the availability of jobs in College Park, is illustrated in Figure 4.

Figure 4: Percentage Commuting More Than 30 Minutes to Work

City of College Park	College Park Market Area	Prince George's County	Washington Metropolitan Area
35%	42%	59%	51%

Source: U.S. Census, 2000; Bay Area Economics, 2006.

[4] Reality Check Washington, DC
[5] Bay Area Economics presentation, January 20, 2006.

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Of the four areas, the City of College Park has the lowest percentage of residents commuting more than 30 minutes to work. This can be explained by the number of students and faculty who live in College Park close to their work or school. At the opposite end of the spectrum, Prince George's County residents report that nearly 60% have commutes that average more than 30 minutes. This suggests that College Park residents benefit from an abundance of nearby jobs.

The statistics support this supposition. College Park has 4.25 jobs per housing unit as opposed to 0.96 jobs per housing unit in the county as a whole.[6] All else being equal, jobs/housing balance usually occurs at between 1.5 to 1.75 jobs per housing unit to allow for multiple earners in a household. The city's high jobs/housing ratio produces more in-commuting, contributing to congestion on US Route 1. From a traffic perspective the community could benefit from a better balance of housing and jobs.

If students live along US Route 1 with adequate access to campus as a pedestrian, bicyclist, or shuttle rider, then they will make fewer vehicle trips back and forth to campus. Trip reduction is also best achieved when students and other residents can reach shops, restaurants and services through a variety of transportation options.

4. Retail, Commercial and Hotel Potential

Residents and college students want additional retail, such as national and local retailers, and higher quality businesses. The City and the University share the goal of creating more of a "college town" feel with businesses that are typically adjacent to other colleges and universities. City residents seek goods and services nearby so they do not have to travel to other parts of the County or the metropolitan areas to make purchases. Recent retail development has been concentrated near the intersection of US Route 1 and I-495. Businesses like Home Depot, Shoppers Food Warehouse and IKEA have opened in this area, meeting a demand for home-related goods.

Officials have expressed interest in having retail along the entire length of the study area. The current state of the market suggests that there is not enough market demand to develop retail along the entire corridor that also meets the community's other goals, such as walkability and character. These require a certain critical mass of retail in each location, and there is not enough demand to support a dense, 2-mile retail corridor. Except in unusual circumstances, successful retail also requires clustering and concentration of retail activity to attract a critical mass of shoppers. Both the community vision and the market reality, then, require that retail be focused in specific areas, or nodes, along the corridor.

Providing an environment for retail to flourish is essential. This means creating a destination that encourages access for all users whether pedestrian or automobile. The potential for significant additional retail development is somewhat limited given major competitive shopping centers recently developed or proposed in the communities surrounding College Park. The US Route 1 corridor has the potential to accommodate additional retail and commercial growth, but it needs to be focused on the retail and entertainment needs of area residents and University students, faculty and staff.

Besides general retailers, the community needs additional quality hotels. The university generates a significant number of conferences, meetings, and sporting events that would benefit from more and better quality hotel rooms. Each of these demands can be accommodated with redevelopment of US Route 1.

[6] US Census, 2000, Bay Area Economics, 2006.

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5. Office Development and Demand

The office market in College Park is relatively stable. Vacancy rates in the city limits average 2.4%. This is low compared to communities surrounding the city, where rates rise to nearly 10%. Rents for offices in College Park are approximately $21 per square foot, which is more competitive than other areas of the County.[7] However, low rents have discouraged developers from investing in new multi-tenant office space. Development has been limited primarily to single-tenant buildings. Office development has been concentrated at specific locations related to the university or in association with the Metro station. In the near term, there is little developer interest in constructing additional office space. Interest will likely occur in the near term only where a tenant is already known; it will not be built speculatively.

2.3 Policy Context for the Route 1 Corridor

Taken together, the conditions and market trends above strongly suggest that the market demand exists to support the overall vision presented in the 2002 Sector Plan. Residents and visitors to College Park seek additional housing and transportation options as well as a more sophisticated array of businesses and services. This is consistent with the goals of the City, County and the University. However, the current market conditions and trends also suggest two cautionary notes, with respect to the potential for mixed use in the corridor, and the role of land assembly.

1. Mixed Use Potential

The Sector Plan specifies that a majority of parcels along the US Route 1 corridor are approved for mixed-use development (see Figure 5). Intended land uses are retail, office and hotel. The sector plan envisions residential and mixed-use infill development along US Route 1 in both vertical and compact building forms for the purpose of concentrating development. The sector plan uses the Mixed-Use-Infill (M-U-I) Zone to implement mixed-use residential and commercial development. The M-U-I Zone is intended to provide development flexibility in responding to market needs by allowing residential and/or commercial use in appropriate locations.[8]

As with the interest in retail along the entire corridor, the market review suggests that the entire corridor is unlikely to see genuine mixed-use development on all the parcels zoned M-U-I in the short- to medium-run. Mixed use can mean office plus residential, so the corridor can and should see more mixed use than just retail plus another use. Nonetheless, while a detailed market forecast is beyond the scope of this report, it is reasonable to conclude that on its own, the market cannot support mixed use on all the parcels zoned M-U-I in the Sector Plan.

[7] Bay Area Economics presentation, January 20, 2006.
[8] 2002 Sector Plan, p. 31

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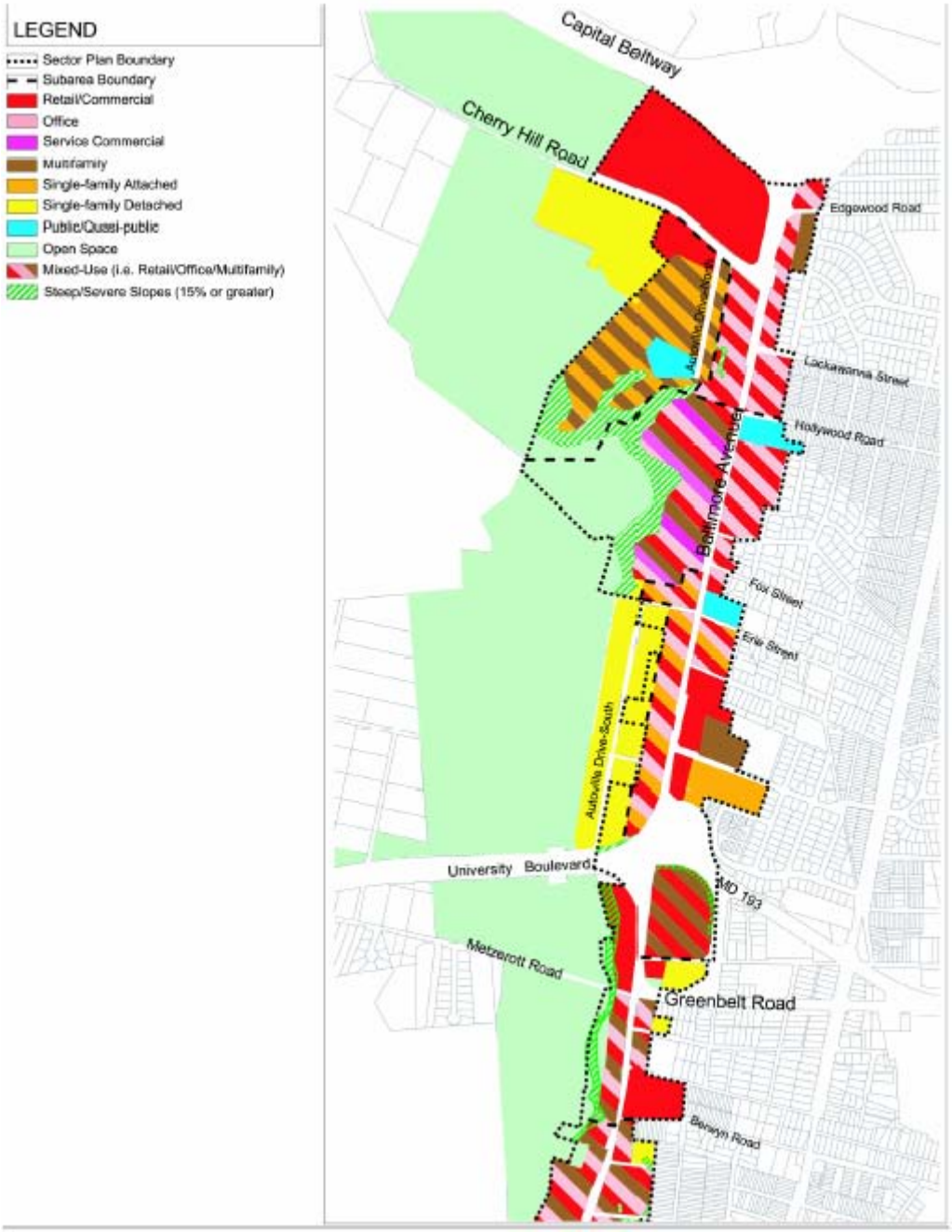
Figure 5: Approved Land Use Plan (Sector Plan Map 7a, p. 33)



2. Land Assembly

The US Route 1 corridor is currently characterized by single use businesses on shallow lots on both sides of the roadway. On the east side of US Route 1, businesses abut residential neighborhoods that the City would like to preserve. To the west, the Paint Branch is a barrier. Almost any combination of parcels must be done linearly along US Route 1. While this can create larger parcels that can support larger scale mixed-use development, the lots will remain shallow.

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Another barrier to land assembly in the corridor is the relative success of its single use auto-oriented businesses, and the resulting lack of incentive for businesses owners to sell and/or consolidate. In the current market, strip centers and fast food restaurants may produce steady returns on investment, making their owners unwilling in many cases to sell at a price that would allow new development. Assembling viable land parcels for new development will require collaboration among property owners to consolidate their parcels and/or public incentives.

2.4 Stakeholder Views

The Team met in College Park January 19-21, 2006 to learn more about the current conditions and vision for the US Route 1 corridor. The on-site work was separated into information gathering (Tour and Stakeholder Interviews) and presentation of topics and options (Facilitated Meeting). On Friday, January 20, the team met with the following stakeholders:

- The College Park City-University Partnership (CPCUP)
- Local business owners
- State Highway Administration
- Maryland-National Capital Park and Planning Commission
- Local land developers
- Representatives from the University of Maryland
- Civic associations
- Mayor Stephen Brayman

Appendices A and C include Site Visit Details describing the team members, workshop participants, a copy of the site visit schedule, and names and affiliations of all of the stakeholders interviewed.

From the interviews, the Team reached some preliminary conclusions:

- No one is happy with how the MUI is working
- There is too much ambiguity in the development process
- People want to see the corridor change dramatically
- Existing businesses want to be better included in the planning process
- People are looking for action and results, not a redo of existing plans
- People want to see more development on the corridor but also want to know how the traffic is going to work
- There is good support for the vision in the 2002 Sector Plan

The public meeting on Saturday, January 21, was an opportunity for the Team to present to the public its understanding of their vision and current obstacles to achieving that vision, and for the Team to present potential solutions—to (1) see if the Team had correctly understood and synthesized the information gathered, and (2) receive feedback and refine ideas for moving forward. See Figures 6a-d.

Based on public and staff response to the ideas that the Team presented, the Team developed a set of key options to help College Park transform US Route 1 in accordance with its vision. These options follow.

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Figure 6a: During Saturday's meeting, the Smart Growth Implementation Assistance Team presented preliminary options…

Figure 6b-c. …and discussed them with a variety of public and governmental stakeholders.

Figure 6d: Mayor Stephen Brayman closed with a charge to deliver on US Route 1's potential.

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3 STEPS TO A NEW US ROUTE 1

College Park citizens and officials agree that the US Route 1 corridor can and should evolve to better reflect the community's vision. Key elements of that vision include a street that is aesthetically pleasing and functions well for all travel modes. The community vision also includes some specific design features commonly found on traditional "Main Streets": wide sidewalks, streetside storefronts, a lively mix of uses along the road, and a sensitive transition into adjacent neighborhoods.

College Park can create a distinct identity for the city by combining this community vision with the research and market analysis presented in preceding chapters. Without taking economic conditions into account, the vision will not become a reality. The Team's analyses suggest that nodes of concentrated development can both succeed economically and support progress towards the community vision. An entrance to a community can be a single location, or, in the case of College Park, the entrance corridor can extend a mile or two. College Park is unlikely to sustain continuous Main Street-type development over such a length. However, selecting nodes to develop more intensively while articulating a pattern and design throughout the corridor can remind people that they are in a distinct place.

Taking into consideration the existing conditions, market analyses, and dialogue in the public meeting, the Team developed options that would help the community achieve its goals. Experience elsewhere suggests that focusing on the following four areas will most effectively help College Park grow as it would like.

1. *Physical development of land uses along the roadway.* The options in this category cover the types of buildings and uses in the US Route 1 corridor.

2. *The physical design of the corridor right-of-way*. Design includes the roadway's target speed, sidewalk characteristics, treatment of bike lanes, medians, road width and turn radii, parking, aesthetics, and capacity.

3. *Transportation management in the corridor* that includes parking, access, and circulation.

4. *Creating a clear development permitting process* that enables predictability, certainty, and fairness for developers, residents, and government.

For each category, this report describes the goal the community has articulated and options available to advance toward that goal.

3.1 Physical Development: Land Uses along US Route 1

Goal: *Provide more certainty in the development code and local priorities to help get the development that we want.*

US Route 1 has a high potential for redevelopment and in 2002 the City of College Park sought to respond to that potential and direct it to produce growth more in line with the City's vision. As developers worked with the City and County to build along US Route 1, it became clear that the primary tool in that process, the Mixed-Use-Infill (M-U-I) zone, was not producing the desired results. Developers, the city, and residents realized that ambiguity in the code allowed multiple, sometimes conflicting, interpretations of what development is allowed. Further, it was clear that while the M-U-I zone allowed development that fit with the College Park vision, the zone also allowed development that did not fit, and did not necessarily lead to coherent development across separate parcels.

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Differing interpretations produce uncertainty, unpredictability, and delay. These deter developers and slow development without helping produce the type of development the community wants. The community's vision for a main street atmosphere is clear, but existing codes are not sufficient to achieve that vision. College Park has many options available to address these issues.

1. Cluster retail at nodes rather than spreading it along the entire corridor.

Mixed use is currently strongly encouraged along essentially the entire corridor. This guideline may be working against the College Park vision because it spreads retail and office components along the corridor, eliminating synergies that could exist if these uses were closer to one another. Instead of spreading retail and office along the corridor, College Park could strategically cluster them at main street nodes. Designating strategic nodes to concentrate development in specific areas is a successful strategy around the country. A nearby example is Columbia Pike in Arlington, VA. See Appendix C for a description of how the County retrofitted the corridor into a boulevard with concentrated nodes of development. Planners and county officials there realized that the redevelopment of the 4-mile corridor would not be effective if energy and resources were spread evenly along the Pike. Instead, they designated intersections at which to concentrate growth, and zoned to create places with complementary uses in close proximity. In a similar example, the City of Eugene, OR has developed a nodal development overlay zone to support development at key nodes commensurate with bus service.[9]

The US Route 1 corridor can probably support roughly three mixed-use nodes in the study area. It is beyond the scope of this assistance to suggest where the City should designate those nodes. The City should consider the following criteria in choosing the number and location of the nodes:

- Locate the nodes at major intersections
- Identify areas with good parcel depth, ideally on both sides of US Route 1.
- Locate at least one node close to campus.

Given the unique constraints in the corridor, it is unlikely that all three criteria can be met for all nodes. For example, one likely node might be around the University of Maryland's planned development of the East Campus, although it would not be on both sides of the corridor. In any case, national experience suggests that places with vibrant character will not develop along the corridor unless the City designates nodes, and then works to make those nodes into places.

2. Create build-to lines for all development, bringing buildings up to the street.

One of the best ways the City can give US Route 1 a sense of place and character is to frame the street by creating consistent setbacks from the street and the sidewalk. A consistent build-to line provides an aesthetic quality that helps define the sort of place called for in the community's vision. The exact location of the build-to line depends in part on whether the City designs for a boulevard or a Main Street, but in either case, the City should consider a build-to line of roughly 25 feet from the curb, allowing for a potential future 5-foot road widening for bike lanes. If bike lanes are possible within the existing right of way, the build-to line could be 20 feet from the curb.

Examples of build-to lines vary by community depending on intended outcome. For urban neighborhoods and corridors that use form-based codes, see the following: Traditional Neighborhood District, Austin, TX;[10] Traditional City Neighborhood Development, Gainesville, FL;[11] and

[9] Overcoming Obstacles to Smart Growth Reform, Local Government Commission, http://www.lgc.org/freepub/PDF/Land_Use/sg_code_exec_summary.pdf.
[10] www.ci.austin.tx.us/development/ldc1.htm

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Downtown CRA Code, Cape Coral, FL. The City of San Mateo has variable build-to lines for El Camino Real (one of the Case Examples in Appendix C) depending on the intensity of development along the corridor.[12]

National experience shows that surface parking and garages need to be treated differently than other buildings with respect to setback requirements. As a general rule, lots and garages should not front on the street, because they interfere with the creation of a critical mass of interesting and inviting storefronts. However, parking entrances need to be clearly available; well-designed and accessible parking turns drivers into pedestrians.[13] Designing and providing parking that neither dominates a streetscape nor interferes with a node's ability to draw from a wide market requires detailed guidelines that are beyond the scope of this report. Absent more detailed guidelines, the City might consider a surface and above-ground parking set-back line at least 40 feet from the curb.

3. Allow for on-street parking in nodes.

On-street parking is another tool that serves multiple purposes in supporting the development of a vibrant retail/mixed-use node. First, it can help define the boundaries of the node. A change in the corridor to on-street parking signals the beginning of the mixed-use district. Second, the parked cars provide a buffer between the travel lanes and the sidewalk. This helps pedestrians feel safe walking and visiting businesses in a relaxed setting. Third, travel speeds tend to fall with on-street parking. Providing on-street parking by widening the right of way at the nodes would create these benefits while allowing a consistent number of through-travel lanes. On-street parking as a tool for retail place-making is discussed in more detail under "Physical Design of the Corridor."

The City of Orlando has an innovative program for on-street parking in the Southeast Sector of the City. Also, the City of Longview, California has an on-street parking ordinance for its downtown that can be used as a resource.[14]

4. Develop a form-based development code.

A form-based development code is a powerful tool for guiding development to create the type of places that College Park wants. Unlike design guidelines, which generally focus on architectural details and styles, form-based codes use simple and clear graphic prescriptions and parameters to specify building frontage and placement on lots, heights, windows, and entrances/doorways—details that directly affect the way a building and street actually function to encourage or discourage pedestrian activity and mixed-use—as well as the location and design of parking and the design of the resulting public spaces. A pure form-based code does not regulate the uses of the buildings, but, as the name suggests, regulates only the form of the buildings. This has the dual advantage of allowing developers substantial flexibility in responding to changing market conditions, while providing everyone certainty about the appearance of both individual developments and the corridor as a whole. In short, form-based codes help shape the public spaces that private buildings create. Rather than relying on a list of prohibitions, a form-based code proactively specifies the form of the desired built environment. See Figure 7 for an illustration of how Arlington's form-based code will guide development. [15]

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[11] See www.comdev.cityofgainesville.org.
[12] See www.cityofsanmateo.org/dept/codes/ch27-30.html.
[13] A common theme in presentations by Jim Charlier, Charlier Associates.
[14] See www.ci.longview.wa.us/government/muncode/longvw11/longvw1150.htm.
[15] Images b and c, Steve Price, Urban Advantage.

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Figure 7a: Current conditions along Columbia Pike, Arlington, VA.

Figure 7b: The building forms (not uses) specified by the form-based code for Columbia Pike.

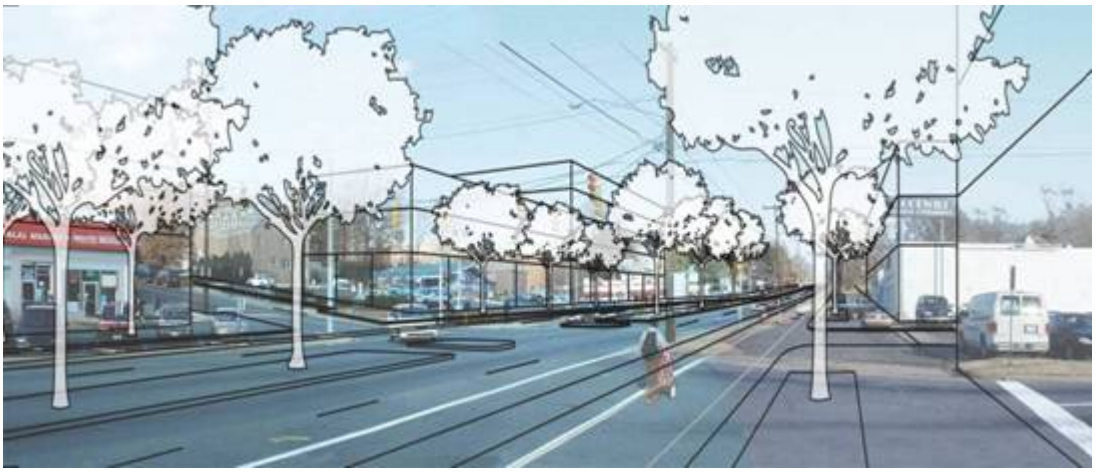

Figure 7c: Together with appropriate design of a multi-modal corridor, the form-based code will produce the *place* envisioned by the community.

By helping provide certainty to both developers and the Arlington community about what kinds of development will be approved and what it will look like when built, the Columbia Pike form-based

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code has been instrumental in stimulating over a billion dollars of projects in design or already approved, in a corridor that was largely stagnant until the new code's adoption.

The existing Sector Plan has elements of a form-based code within it. Some places have done well with hybrids combining elements of form-based code with traditional coding elements. The City is not getting the results it wants from its current approach to height limits, setbacks and other elements typically addressed in coding. A form-based code would be a powerful tool for addressing the City's concerns with its current approach to coding in the corridor. The most important aspects of form-based codes are the street characteristics and how the buildings address the street. Once these are established, other guidelines and standards can follow to create the place College Park has envisioned.

Appendix C presents the Columbia Pike Form-Based Code case in more detail. For further information about form based codes, see the Form Based Codes Institute at www.formbasedcodes.org and *Form-Based Zoning.*[16]

5. Place more student housing in the corridor.

Stakeholders were unanimous in their desire to see less student housing in existing neighborhoods. Supporting the development of more student housing in the US Route 1 corridor would serve this goal, and several others. More students living in the corridor could

a) help create the critical mass of market demand necessary to develop vibrant retail nodes;

b) help create an active street through biking and walking to campus;

c) reduce traffic in the corridor by reducing the number of student commuters.

To fulfill these goals, student residences must be well-designed for the specific campus/Route 1 context. For example, to reduce traffic generation by allowing students to walk, bike, and/or use shuttle buses, residences must be designed to facilitate walking, bicycling, and speedy shuttle bus service. Recent student residential development could have been better designed on all three counts. See Figure 8. There is a growing literature of success stories about developing student housing near universities that can provide useful lessons.[17]

[16] PAS QuickNotes No.1, Form-Based Zoning, American Planning Association.

[17] For example, the University of Cincinnati developed a nationally acclaimed Campus and Neighborhood Master Plan that seeks to achieve a balance between transportation, housing, retail and open space both on and off the campus. The plan illustrates how the surrounding neighborhoods have been engaged in developing a mix of uses in the Calhoun corridor leading to campus. See http://www.uc.edu/news/NR.asp?id=3638 for complete details about university and city engagement to produce student housing adjacent to campus. Other examples can be found in "The University as Urban Developer," David Perry and Wim Wiewel, editors, Lincoln Institute for Land Policy.

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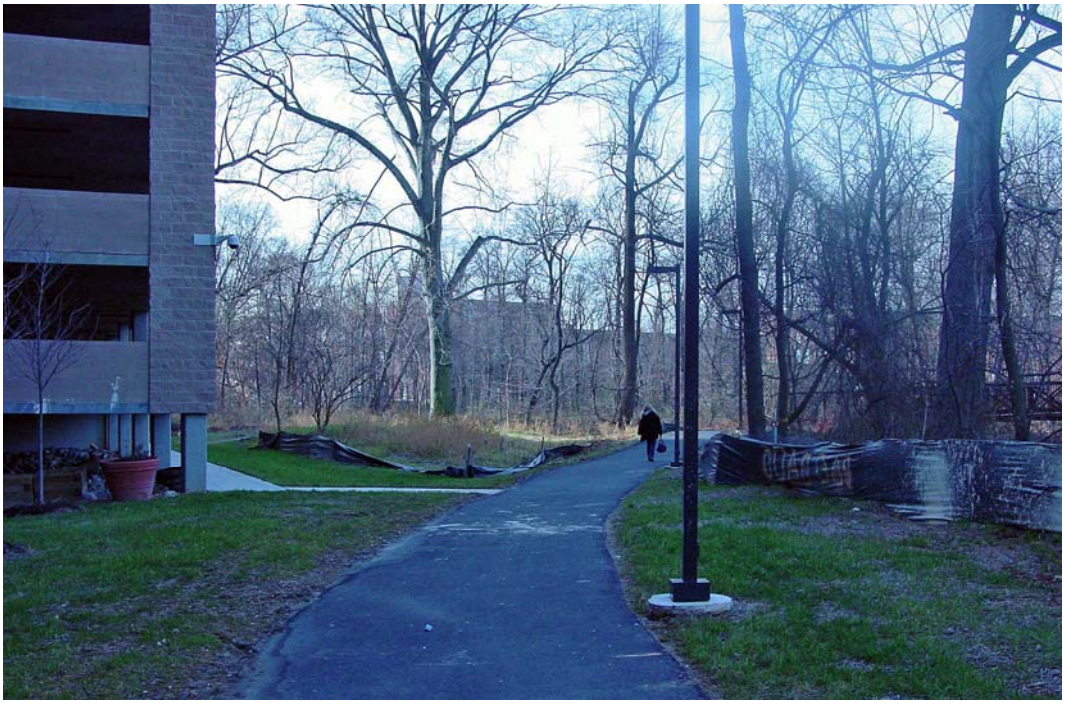
Figure 8: The walking path from University View to campus. This path from a new student residence provides a valuable pedestrian link to campus, but could be improved with better attention to safety, directness, and aesthetics. With those improvements, it is likely that more students would walk to campus.



6. Develop a vision and code for the portions of the corridor that will not be nodes.

The City's clear vision of a consistently vibrant, attractive, welcoming corridor need not and should not change with the designation of specific nodes at which to concentrate certain kinds of activity. If the City wishes the corridor to consistently display certain qualities, then it will also need to be intentional about and code for the non-node portions of the corridor. Several of the options discussed above would be productively applied throughout the corridor, including consistent build-to lines and form-based coding.

Given the high demand for new housing in both the region generally, and the College Park area in particular, the City would productively consider making those portions of the corridor that do not become nodes into multi-unit housing. The benefits of additional student housing in appropriate places close to campus are discussed above. The benefits of multi-family housing in the rest of the corridor are largely similar: critical mass of retail demand, activity on the street, and reduction in trip generation and in-commuting. In addition, the current demand for higher-end housing means that additional housing can bring more fiscal benefits than has been the case in recent years. Any residential development, whether student or high-end, needs to be well-designed and integrated with the vision for the corridor if it is to produce the desired benefits. The vehicle trip generation of higher-end apartments will be higher than that of student housing, but even higher-end apartments will generate lower vehicle trips if they are developed with convenient, attractive connections to campus and shopping, and higher vehicle trips if they are developed as stand-alone complexes.

Together, these options would help College Park and Prince George's County develop land uses in the corridor that would establish some consistency in appearance and function—buildings that define the street, and largely residential, with nodes of main street commercial/mixed use—while responding to

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market realities. A form-based code could then help deliver that vision with a minimum of uncertainty on the part of both the community and developers.

3.2 The Physical Design of US Route 1

Goal: *Design US Route 1 to be a pedestrian-welcoming, retail-active boulevard that supports the desired "Main Street" function at specific nodes.*

Residents and civic officials of College Park clearly echoed in the meetings the goals in the Sector Plan: that US Route 1 needs to be a destination and an enhanced gateway for the community. Changes in the physical design of the road can direct and support the type of development that is appropriate and desired for each section of roadway. One option that has been successful in supporting the kinds of development that College Park desires is a boulevard. The requirements for a successful boulevard include slower traffic, ample intersections, and frequent safe pedestrian crossings. A boulevard typically requires wide sidewalks for pedestrians to walk, gather, or linger, and preferably landscaped medians. The following options would help achieve the community's desired vision.

The City of College Park has been working with the State Highway Administration to improve the US Route 1 right-of-way. The project is currently in the design phase. The Team reviewed the current design plans, comparing them against the vision articulated by the city, citizens and other stakeholders. This review suggested options for changes in the road plan that the City may want to consider.

The Team generally agreed with the plan's recommendations, including the installation of medians, with the following amendments and additional detail:

1. Design a "complete street" with a target speed of 30 mph.

The current roadway was designed according to rural highway rather than urban street guidelines. On a rural highway, automobiles are expected to be the dominant mode, so designers seek to improve roadway safety by designing in generous margins for error, including wide travel lanes, high speed curves, shoulders, and other features. In the city, however, designing to accommodate high speed auto traffic, and the ensuing high speeds, can result in greater rates of pedestrian crashes, particularly those producing in severe injuries and fatalities. In addition, designing streets for high-speed auto traffic produces environments that interfere with walking and bicycling. Wider intersections are more difficult to cross. Removing trees to accommodate broad sight triangles makes sidewalks unappealing.

If the City wishes to achieve its vision, then it, Prince George's County, and the Maryland State Highway Administration will need to work together to apply the latest research in design guidance for streets that accommodate all modes of transportation equally well. These are called "complete streets," in which no mode dominates such that it excludes others. The publication *Context Sensitive Solutions for Major Urban Thoroughfares for Walkable Communities*, just issued by the Institute of Transportation Engineers, provides substantial detail on design for major arterials such as US Route 1.[18]

In addition to addressing variables such as lane width and turn radii, making US Route 1 a complete street will mean sufficiently frequent pedestrian crossings. As growth increases in the corridor, so will the demand for crossings. Successfully meeting that demand will mean crossings generally no more than a quarter mile apart, with more frequent crossings preferred. Generally, this will mean signalized

[18] Institute of Transportation Engineers, *Context Sensitive Solutions for Major Urban Thoroughfares for Walkable Communities: An ITE Proposed Recommended Practice*, 2006. See also Reid Ewing and Michael King, *Flexible Design of New Jersey's Main Streets*, New Jersey DOT, 2003.

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intersections, including some that are activated only by pedestrians. More specific options on this point are beyond the scope of this report. To ensure that investment in the corridor supports its vision, the City will need an access and circulation plan that integrates road reconstruction with its land use vision.

Figure 9: Growth will require more frequent pedestrian crossings

2. Manage access.

A majority of the businesses along US Route 1 have their own curb cut, contributing to congestion as vehicles enter and exit at dozens of spots along the 2-mile study area. A median will substantially smooth traffic flow by consolidating left-hand turns and access, and is probably the most important access management action.

Appropriate right-hand access can be provided in two ways.

a) By placing common access curb cuts at intervals of between 200 and 600 feet, as in a traditional street network pattern. The Sector Plan requires that curb cuts be reduced and that common shared entrances be utilized.[19] This policy can be mandatory for new development at least.

   The location of these cuts, and the location of median breaks, should be identified as soon as possible, and well in advance of development, so that development plans for and builds to them. In the case-by-case alternative, the corridor may continue to see the kind of significantly sub-optimal access epitomized at University View and #1 Liquors.

b) Through a system of side and rear interconnection.

   A US Route 1 access/frontage road has been discussed, with a feasibility study currently underway. Such a road would be inconsistent with the City's goals and with conditions in the corridor. A service road or frontage lane would be difficult to incorporate into exiting platting of

[19] 2002 Sector Plan, p. 177

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thin and narrow parcels. In addition, the Paint Branch near the west side and residential neighborhoods near the east side of Route 1 present major constraints against taking new right of way for service roads.

While frontage lanes and multiway boulevards are useful tools for creating high residential property values along high-volume arterials, in this case pulling back development to accommodate another traffic lane would interfere with efforts to create an attractive corridor. Most of the goals of access lanes can be accomplished through other means. Most important, additional access and connection between parcels can be provided via rear and side connections. Interconnectivity would allow for auto and truck movement between parcels without putting trips on US Route 1.

A specific study (most likely part of a larger access and circulation study) would be necessary to determine the most effective locations for connections. For new development projects, access easements can be required, and site plans required to accommodate desired circulation patterns. For existing properties, securing rear and side connections would require negotiations with existing businesses and property owners. For some property owners, the benefits of improved access will be obvious. Others may require incentives from the City, County or neighboring businesses. Forming a Business Improvement District or strong local chamber of commerce can help facilitate these types of negotiations, allowing merchants and property owners to sort through their priorities without government interference. In redevelopment areas, the government may have the authority to require additional access easements on existing properties, but compensation would be required for any loss of value that such an easement would create.

3. Develop and implement a vision for walking and bicycling in the corridor.

As with its interest in seeing retail along the entire corridor, the community might productively examine its interest in making the entire corridor "pedestrian-friendly". If the City's goal is to see more walking and bicycling in the corridor, it will need to develop a more detailed vision for what types of walking and cycling it wants to see in the corridor, and then focus limited resources on the places and facilities most important to that vision.

For example, the current understanding of walking and bicycling establishes five kinds of walking, three of which are likely to be important in the City's vision for the corridor: rambling, utilitarian walking, and strolling/lingering.[20] As illustrated in Figures 10a-c, each requires very different kinds of facilities and surrounding land uses. National experience suggests that a vision of pedestrian-friendliness is unlikely to produce substantial numbers of pedestrians unless the specific type of pedestrian activity is designed and provided for. Given limited funds, College Park may wish to consider tiering its pedestrian-support efforts, focusing first on the places that it designates nodes.

[20] Photos and typology by Charlier Associates.

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Figure 10: Three kinds of walking

a: Rambling

b: Utilitarian walking

c: Strolling and lingering

Each type of walking requires a different type of facility design and supporting land use.

4. Create sidewalks to support pedestrian-oriented retail and street-oriented housing.

The first step in providing both utilitarian and strolling environments is good sidewalk design. The access management through reducing curb cuts in #2 will also benefit pedestrians by reducing potential conflicts with autos, and by improving sidewalk continuity.

Current State Highway Administration (SHA) plans for the corridor propose a five foot sidewalk in the right-of-way, with wider sidewalks on private property required by the Sector Plan in the Downtown and Main Street areas.

For a street this size, the minimum successful functional distance between property line and curb is 15', with 20-25' preferred. This allows space for the four pedestrian area elements (see Figure 11[21]):

- The **Edge Zone and Furnishings Zone** are the areas necessary to allow for curb cuts and driveway ramps that will continue to be a feature of the street for many years. It is also the

[21] ITE, *Context Sensitive Solutions for Major Urban Thoroughfares for Walkable Communities*, 2006, p. 96. Illustration: Community, Design + Architecture.

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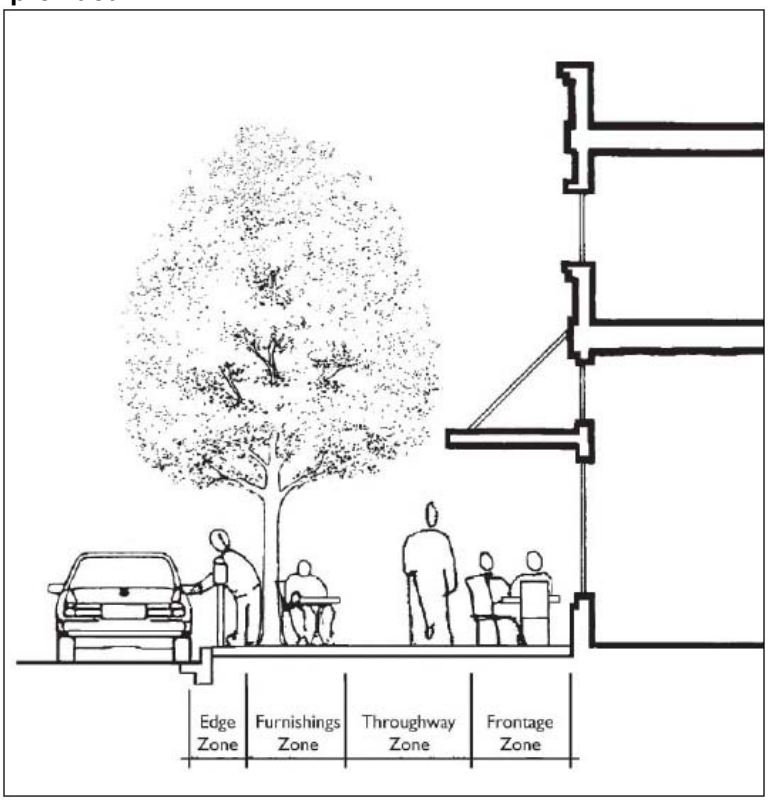
location for street trees, planting strips, utility poles, fire hydrants, bike racks, etc. The typical dimension for this zone is 5'.

- The **Throughway Zone** is the area intended for pedestrian travel and must be entirely clear of obstacles, including utility poles and driveway aprons. A minimum of 4' is required for accessibility. To accommodate more intensive and pedestrian-oriented development along US Route 1 closer to the university, 6-8' would be preferred.

- The **Frontage Zone** is the space adjacent to the property line that in the future of US Route 1 will generally be defined by a building façade, landscaping or a fence. Pedestrians generally do not feel comfortable moving immediately alongside a wall, so a minimum of 1'6" is a necessary buffer. This is also the zone where pedestrians will stop to look in store windows, as well as providing space for sidewalk café tables and limited storefront displays.

Figure 11: The four pedestrian area elements must be provided.



5. ***Bicycle lanes should be striped if sufficient roadway right of way is available.***

The bicycle element of the vision for walking and bicycling includes cycling on US Route 1. In discussions between the City of College Park and SHA that occurred after the January 21 meeting, a decision was made to include bike lanes in future US 1 improvements. To achieve College Park's goal of increasing bicycling, it is important to stripe the lanes. The *National Bicycling and Walking Study* and other sources have found a strong correlation between the presence of dedicated bicycle facilities and a tendency to ride bicycles for everyday trips.[22]

[22] See Federal Highway Administration Publication PD-92-041, "Case Study Number 1: Reasons Why Bicycling And Walking Are And Are Not Being Used More Extensively As Travel Modes," 1994. http://www.bikewalk.org/assets/pdf/CASE1.PDF. The National Center for Bicycling and Walking has not updated this report in full, but does list numerous assessment tools and case examples that show states and localities that have analyzed the usage of bike lanes per their existence. For other information and resources about pedestrian and bicycle information visit www.pedbikeinfo.org.

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It may be possible to stripe bike lanes without moving curbs if roadway dimensions are adjusted to be more suitable for an urban arterial. In order to reach goals that stakeholders seek, such as slower traffic speeds, adding bike lanes, and providing for pedestrians, travel lanes along US Route 1 can be reduced to 11' in width, and the turning lanes in some locations may be reduced to 10'. Median widths can also be reduced in some locations.

Moving the curbs to accommodate bike lanes is the most expensive component of the proposed roadway reconstruction. If it is not possible to create bike lanes by reallocating the existing space between curbs, and if funding is not available to move curbs sufficiently to accommodate bike lanes, the bike lanes can be deferred. That is, it is possible to move forward with median construction and acquisition of space for sidewalks, deferring the bike lanes until later. Installing medians without moving the curbs would require the application of an urban arterial design standard, rather than the rural highway standard the SHA currently uses. The SHA requires medians to be a minimum of 16 feet wide. There is adequate precedent for use of smaller medians. The American Association of State Highway and Transportation Officials' (AASHTO) *A Policy on Geometric Design of Highways and Streets* allows for medians as narrow as 4 feet (Chapter IV: Cross Section Elements: Medians). AASHTO's "optimum design" for medians that also serve as left turn pockets ranges in width from 9.8 feet to 15.7 feet, less than SHA's *minimum* width.

The bicycle vision needs to include connectivity. An opportunity exists on the west side of US Route 1 to link the striped lanes with the University of Maryland trail system. Signage for the trail is posted along US Route 1 at University View.

6. Address safety problems at key intersections.

The intersections of US Route 1 at the Beltway and MD Route 193 are designed to accommodate vehicles only, with high-speed, free-right-turn lanes, highway-style design, and little or no accommodation for bicyclists or pedestrians. The Greenbelt Road and Paint Branch Road intersections provide for pedestrian crossings at most legs, but are still primarily oriented toward moving cars, with moderate-speed right turn lanes. Stakeholders expressed concern about safety for pedestrians and bicyclists, and the vision is for safe access to campus and corridor businesses by walking and bicycling. To help fulfill this goal, these intersections would need to be designed as urban intersections, with safe and comfortable accommodations for bicyclists and pedestrians.

Redesigning the intersection of MD Route 193 offers great potential, since considerable developable area could be freed by converting the high-speed on- and off-ramps into a more urban diamond interchange. Allowing for a direct connection from northbound Route 1 to eastbound Route 193 would also provide development opportunities along 48th Avenue, and make for a smaller intersection at Greenbelt Road and US Route 1. While this intersection has high potential, it should only be a priority if redesign coincides with reconstruction for other reasons.

7. Provide on-street parking at retail nodes.

Since the January 21 meeting, the City has been in conversation with the State Highway Administration about the US Route 1 right-of-way design. While on-street parking is seen as a difficult proposition, it is an important part of creating a boulevard consistent with the vision of the local stakeholders. There are a variety of options for providing on-street parking, including non-peak on-street parking.

For certain areas of the corridor, especially where nodes are planned or where a transition occurs to the south towards downtown and the University of Maryland campus, the road can be designed like a traditional college town "Main Street." For this option, the median could be removed, traffic calmed

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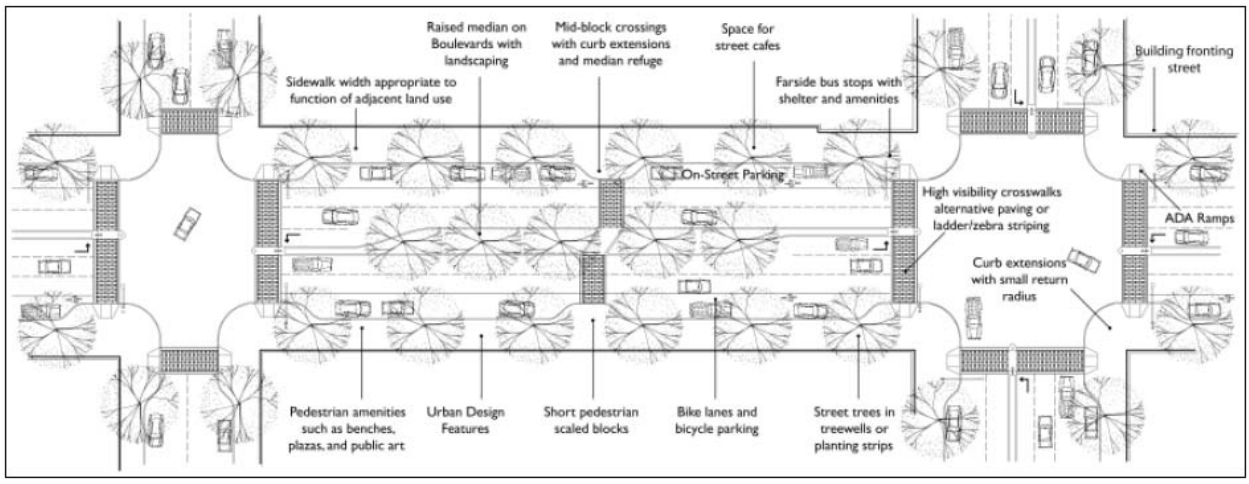
through bump-outs, pedestrian crossing signals installed, lanes set at 10-foot widths, and on-street parking introduced. This is a typical model for supporting pedestrian movement while maintaining traffic volumes. An example of this type of transition from a boulevard roadway to a main street orientation can be found in Seattle along Martin Luther King, Jr. Way, which carries a similar average daily trip count as US Route 1.

If the median cannot be removed due to the need to maintain left turn pockets, then the City may allow or require that projects in designated retail nodes dedicate sufficient right of way to allow a parking lane to be added to the roadway. Preferred dimensions would include:

- Optional 10'-16' median with 10' left turn pockets
- 11' travel lanes
- 5' bike lanes
- 8' parking lanes
- ≥15' between curb and building

Figure 12, from ITE's *Context Sensitive Solutions for Major Urban Thoroughfares for Walkable Communities*, shows most of the elements discussed above, in plan.

Figure 12: A boulevard at a retail node with both a median and on-street parking.[23]



8. Create a phasing strategy.

If funding is not available to reconstruct the entire corridor at once, then College Park, the County, and SHA may wish to phase reconstruction of the roadway. A phasing strategy would include selecting a first segment of the corridor to enhance and develop with the options outlined in this report. This enhancement would include both roadway changes and new land use development. Completing a segment of the corridor and showing what is possible in the corridor, for even a short distance, would likely create momentum for spurring additional growth and would show developers and other stakeholders how the rest of the corridor could be redeveloped.

[23] ITE, *Context Sensitive Solutions for Major Urban Thoroughfares for Walkable Communities*, 2006, p. 56. Illustration: Community, Design + Architecture.

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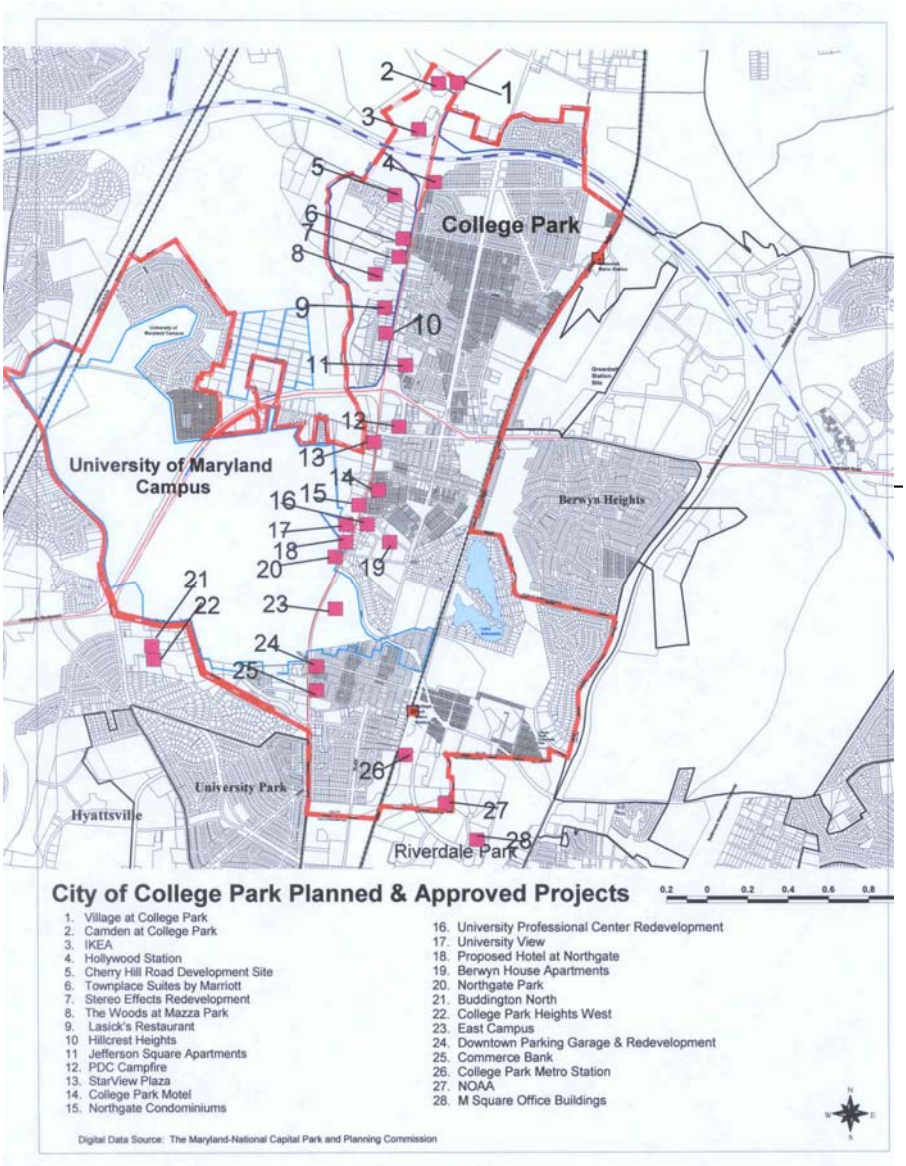
Figure 13: Planned and Approved Development in College Park



Potential first phase for reconstruction.

One way to select the first phase would be to look at where the private sector is already planning to invest and match that with public upgrades. Figure 13 suggests that a prime area for an initial phase would be from Paint Branch Parkway to MD Route 193, given the many proposed developments in this area. Simultaneous public investment would demonstrate public sector commitment to the vision, and would also support the changes that the vision requires of developers (bringing buildings to the street, parking behind businesses, etc). Two blocks could be designated as the focal point for this area. For an example of this strategy in action, see a similar project on US Route 9 in New Jersey.[24]

This option would concentrate resources into an example that could be used as model for the rest of the corridor. The State Highway Administration is amenable to a phasing strategy for the corridor, and this process could successfully leverage interest and demand in redeveloping the rest of the street. Phasing would also help accomplish some portion of the roadway improvements and land use/coding

[24] Ewing and King, *Flexible Design of New Jersey's Main Streets*, NJ DOT, 2003.

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enhancements concurrently. Since each component depends on the other for success, ideally they would be defined and developed together.

3.3 Transportation Management

Goal: *Transform the development along the corridor in accordance with the vision and still make the traffic work.*

New development does not have to mean increased traffic and automobile-related congestion, particularly in a campus context. When appropriately analyzed, well designed and sited development can show minimal net increase in traffic. The University of Illinois at Chicago, the University of Cincinnati and the University of North Carolina at Chapel Hill have all developed housing at the confluence of campus and community, promoting access to housing, campus, and retail while minimizing the impact on traffic compared to the impact if that housing were further from campus.

Further, a mix of land uses close to campus can create opportunities for people to accomplish trips without an automobile. Johns Hopkins University is engaged with its neighbor, Charles Village, to create a mixed-use development serving students and residents while reducing the need for a car. Strategic management of these opportunities can make traffic in a corridor work while development increases significantly. For instance, over the past 20 years, 75% of the roughly 30 million square feet of new development in Arlington County has been concentrated in 7.6% of the County's land area—the Roslyn-Ballston Corridor. Auto traffic in the corridor has increased by only 5% in the same time.

Techniques for achieving this goal in the US Route 1 corridor include the following options.

1. ***Develop a Transportation Demand Management (TDM) plan.***

   An important part of getting the largest return on the investment (past and future) in the corridor is managing transportation demand. The city could establish and oversee a TDM plan that involves the city, the county and the university. Such a program could substantially reduce the amount of automobile traffic by accurately predicting travel demand and meeting it through a complete set of options such as transit, shuttles, car-sharing, and biking and walking.

   The university is an important partner in any TDM effort since it is the largest employer in the city and students are particularly amenable to using non-auto modes. Increasing the amount of student housing on and near the campus and providing improved bicycle, pedestrian and transit connections may significantly reduce auto trips along US Route 1and, perhaps most important, peak auto trips. Universities around the country have demonstrated the ability of a wide variety of other university-based TDM strategies to substantially reduce university-generated traffic, to the benefit of the university and the community. An enormous amount of work has been done on TDM; one useful resource, with case studies, evaluations of TDM, TDM handbooks and manuals, questions and answers, is the National Transportation Demand Management and Telework Clearinghouse at http://www.nctr.usf.edu/clearinghouse/index.htm. The clearinghouse also has information about university-specific TDMs.

2. ***Create a shared parking and parking management strategy.***

   Currently along the US Route 1 corridor each office, residence, business or retail establishment provides its own parking. This system interferes with several of the City's goals:

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- The parking is almost always between the sidewalk and the store, substantially affecting the aesthetics of the corridor.

- The parking requirements substantially affect the economic viability of new and redevelopment, both by constraining potential building footprints, and by increasing the cost of development. On many lots, the only way to provide a viable floor plan and meet parking requirements on site is to build structured parking, a further cost burden.

- Because parking is expensive to provide, there is no incentive to allow or to help drivers to park once and then walk. This further increases the number of short auto trips, with attendant turns and congestion.

- Although self-parking does not necessarily require multiple curb cuts, its current implementation in College Park has produced many curb cuts, again to the detriment of both traffic flow and the ability to use the sidewalks.[25]

Many places around the country are realizing that it makes sense to meet parking needs through a shared parking strategy. Shared parking can mean sharing it between uses with different peak demand times, such as a church and a movie theater, or office and residential. Shared parking can mean on-street or shared garages. But shared parking always means managing parking for joint goals, rather than requiring each use to provide a fixed amount on-site. Sharing parking reduces the cost of providing parking, and frees up additional land for development. This is critical for getting high quality development, particularly given the parcel shapes and sizes in the corridor.

Best practices in parking for corridors and nodes such as US Route 1 have substantially evolved over the past few years, and cannot be fully covered here. Useful resources include:

- Development, Community, and Environment Division, *Parking Spaces/ Community Places: Finding the Balance through Smart Growth Solutions*, US EPA, 2006, available at http://www.epa.gov/dced/parking.htm.

- Todd Litman, *Parking Management Best Practices*, American Planning Association, 2006.

- Donald Shoup, *The High Cost of Free Parking*, American Planning Association, 2006.

Steps toward shared parking and "park once" strategies include:

- *Create a Business Improvement District* or other third-party incorporated entity to negotiate for shared parking, manage parking, and hold liability. Making shared parking work requires a forum for addressing disputes or concerns among various property owners and ensuring consistent management practices. A third-party entity may also lease parking lots from individual property owners and manage them so that motorists perceive all the parking in the district as a common pool. More important, by leasing the parking lots, the third party entity can assume all liability for incidents that occur in the parking lots, relieving individual businesses and property owners from that burden.

- *Require that new parking facilities be shared.* Shared parking cannot be required in a zoning code, but it can be required as part of any type of conditional use permit or negotiated plan

[25] A useful brief discussion of these issues is Mott Smith, "Onsite Parking: The Scourge of America's Commercial Districts," Planetizen, March 31, 2006, http://www.planetizen.com/node/19246.

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approval process, as Arlington County, VA does. At a minimum, shared parking needs to be allowed as a way of meeting parking requirements.

- *Adjust parking requirements*. The City can adopt an ordinance that allows for a significant reduction or elimination of minimum parking requirements in exchange for sharing parking or contributing an in-lieu fee.

- *Create a parking facility plan*. Given the size and shape of development parcels in the corridor, there are a limited number of sites where parking structures are feasible. The City and County can work to identify likely opportunities for developing shared parking structures, including the cost and property implications of building them.

- *Manage an in-lieu fee*. Successful in-lieu-of-parking fees are set low enough to encourage their use, but not so low as to make it impossible to construct shared garages.

- *Consider impact fees*. Automobile trip generation varies more strongly with the provision of parking than with square footage of development. The City and County could consider establishing development impact fees that relate not to type of use and developed area, but rather to type and number of parking spaces. It is straightforward to complete a nexus between shared and non-shared parking spaces and auto trip generation. These impact fees could then generate revenue for mitigating the traffic impacts of new development and at the same time encourage the sharing of parking. It would be important to ensure that the impact fees could be spent on all types of projects that cost-effectively mitigate traffic, including transit improvements and Transportation Demand Management, along with roadway auto capacity increases.

3. Interconnect parking and work toward a system of rear access lanes.

The US Route 1 corridor is typical of many retail corridors in that people will often stop and park at one business, then drive a little ways and park at a second or third stop. This pattern of many relatively short trips, and frequent turns out of and into parking lots, can substantially worsen traffic in the corridor. The resulting congestion is a direct effect of single-use parcels with individual curb cuts and no interconnectivity. As discussed in “Manage Access”, Option #2 under “Physical Design of US Route 1,” rather than treat each parcel as a stand-alone development, the City can require or facilitate connections between parcels so that some trips can be made by walking and others can be made by short car trips through interconnected parking lots.

Developing and supporting a park-once strategy can help to reduce the number of short trips taken up and down the corridor. When done well, shared parking, reduced distance between destinations, and interconnected parking lots can accomplish many of the functional goals of frontage lanes with fewer unwanted urban design and cost impacts.

Several communities have successfully interconnected parking and cross-access among parcels through their access management plans. For instance, the Genesee/Finger Lakes (NY) Regional Council has developed a guidebook for enhancing access management for several of highest volume commercial corridors in the region. Their plan promotes safety of pedestrians and efficiency of travel. Curb cuts are limited, shared parking is required and cross access points have been identified.[26]

[26] See http://www.gflrpc.org/Publications/AccessManagement/GuidebookNarrative.pdf.

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3.4 Development Review Process & Collaboration

Goal: *Fix the development process (and its implementation) to provide:*

- *Predictability, certainty, flexibility*
- *Fairness to developers, citizens, property owners, and business owners*
- *Economic feasibility*
- *Respect for neighborhood values*

Figure 14: Local business owners are eager to get involved

The most consistent comments and feedback from stakeholders and participants in the facilitated meeting called for changes in the process through which land is developed along the US Route 1 corridor. Stakeholders found the process unclear and believed it not used strategically to create the values that are widely agreed upon as essential for future economic growth and the improvement of the corridor. The following options could improve the development process.

1. Strong leadership and partnerships among all stakeholders.

The vision for US Route 1 is clear. It has been articulated and confirmed by government, citizens, business owners, developers, and the University. Each stakeholder has something to offer. The City has funding available for developing a form-based code; the University is a land developer; and the County guides development through review. Working together will improve development and economic vitality for the future. Several mechanisms exist to ensure that collaboration and partnerships are strong and working towards common goals and objectives.

The relationship between the City and County, especially with respect to development and plan review is most solid when the City and County articulate their understanding and expectations for a project in a consistent and predictable manner. While the City does not have site plan authority, the Planning Department reviews applications and makes recommendations to County staff. This process, based on open and consistent communication, provides all parties with a system for keeping review

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streamlined so that developers can understand the wishes of the city and county simultaneously. This will minimize costs and changes to proposed plans.

The University is engaged in collaborative efforts with the City through the formal College Park City-University Partnership. This dialogue is an essential building block in the leadership process and information exchange that is necessary so that each stakeholder can accurately and effectively inform others of their intentions and motivations. This relationship should be strengthened as a forum for exchanging information about growth, development, impacts and planning.

2. Revise the M-U-I Zone to implement the vision for the US Route 1 Corridor

The M-U-I Zone is written broadly enough that different interests can interpret the zone in opposite ways. As a result, recent development applications have been denied due to community tension and disagreement over whether a proposal met the goals of the Zone. Successful re/development in the corridor will require predictability so that developers know what to expect.

A form-based code for the corridor would help address the inconsistencies of the M-U-I Zone. As described in previous sections, a form-based code is used mainly as a tool for setting build-to lines and defining desired development patterns. Use is determined by the market, while the form of the buildings and structures as it relates to the street and the surrounding environment is emphasized. The prescriptive nature of the form-based code allows developers to understand what is expected of their plans in a built form context of standards related to the building envelope, architecture or the street. This information will provide a more predictable expectation that does not exist in traditional zoning.

3. Coordinate the county's Transportation Demand Management Study with the City of College Park and the University of Maryland.

An opportunity exists for the County to engage the City and the University in the County's upcoming Transportation Demand Management Study. Coordinating both supply- and demand-side responses across TDM programs and jurisdictions is imperative for each program to work. If University officials are included, they can provide vital input about university-based demand and demand management.

Three of the case examples in Appendix C draw from university experiences with transportation management. The Stanford University example focuses on traffic generation anticipated from the building of 2 million square feet of building space. Stanford and Santa Clara County worked to create the Stanford Community Plan and the Stanford University General Use Permit to guide this building and achieve "no new commute trips" as part of the building process. A transportation management plan features a campus shuttle system, free employee and student passes, vanpool/carpool preferred parking, new on campus housing, among elements.

The University of Washington example describes the creation of a development and transportation master plan to address the city of Seattle's concerns that campus expansion would increase regional traffic parking demand in surrounding neighborhoods. The 28th Street example from the University of Colorado in Boulder describes expanded travel choices and improvements such as roadway enhancements, better lighting, transit superstops, bus services, bike lanes, sidewalks and multi-use paths.

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4. Revise performance indicators and analysis tools to measure and evaluate what the City wants.

In places like College Park, where significant change in the development pattern is contemplated, traditional impact measures can be misleading, particularly trip generation formulas, mode-split assumptions, and congestion significance thresholds. The County can examine its transportation performance indicators and analysis tools to ensure that they are not unduly penalizing the development it wants, and to ensure that investments will contribute to all aspects of the transportation vision.

Many college towns, such as Boulder, Fort Collins, Palo Alto and Berkeley, as well as cities such as San Francisco, Portland and Seattle, examine the success of the transportation system with more measures than simply auto Level of Service. Several have Level of Service equivalents for all modes of transportation, while others downplay Level of Service and focus on more qualitative or systemic aspects, such as the overall person-capacity of the transportation network. To achieve its vision of a successful multi-modal US Route 1, College Park will need to work with SHA and the transportation providers in the corridor to translate the goals of its community vision into relevant transportation performance indicators. The County's current use of corridor level of service indicators (rather than intersection level) is an excellent start.

For more information about performance indicators, specifically related to corridor level of service, see the Transportation Research Board's Multi-modal Corridor Level-of-Service Analysis.[27] The City of Boulder, CO has a website maintained by the Public Works Department that tracks the performance of its Transportation Master Plan, focusing on alternative modes, vehicle miles traveled, lane miles congested and air quality.[28] This can serve as an excellent resource for comparison with US Route 1.

5. For funding public realm improvements, examine tax increment financing, special taxing district, impact fees, and in-lieu fees.

Successful impact fees or special taxing districts are based on factors that affect trip generation instead of tying fees only to the size of the development or square footage. A funding mechanism that supports the City's vision will give credit to projects that include transit-oriented development and infill, particularly those that reduce commuting by locating students, faculty and staff close to campus. Fees can then be used for the outreach and education necessary for promoting components of the transportation demand management plan.

Establishing specialized districts of tax increment financing for transit-oriented development for instance is a relatively new concept. The State of California, through SB 521, has been exploring its use as a means of spurring growth and development around transit stations.[29] The Northeastern Illinois Planning Commission has published "Building a Regional Framework for Transit Oriented Development"[30] that discusses financing development around transit stations through TIF and other taxing districts. Besides the connection between TOD and TIF, other resources exist to assist communities in matching funding programs with public improvements. The Maine State Planning Office has published "Financing Infrastructure Improvements through Impact Fees."[31] This manual defines impact fees and how they may be used. The document defines legal impact fees as required improvements or payments in lieu of those improvements where there is a direct relationship between the exaction and the additional demand placed on services as a result of the development. The

[27] http://pubsindex.trb.org/document/view/default.asp?lbid=729355
[28] http://www.ci.boulder.co.us/publicworks/depts/transportation/master_plan_new/howdoing.htm
[29] http://apps.mtc.ca.gov/meeting_packet_documents/agenda_495/6a_SB521-Torlakson.doc
[30] http://www.nipc.org/planning/pdf/nipc_transit.pdf
[31] http://www.state.me.us/spo/landuse/docs/impactfee/impactfeemanual.pdf

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Columbia Pike Special Revitalization District, featured in Appendix C, also references the use of special financing to accommodate corridor development. Finally, see www.Impactfees.com, a collection of on-line information related to impact fees and infrastructure improvements. This resource contains case examples from states and localities as well as a publication section containing a dozen articles on impact fees and smart growth.

6. Address need for land assembly.

The city can encourage assembly in a variety of ways:

- By offering incentives for businesses to move to new locations to free up property or incentives to encourage redevelopment of parcels.
- By reducing parking requirements, and by facilitating or providing parking management and shared parking, to reduce the cost of redevelopment.
- By working with the business community to focus civic investments in areas where they will support the community's vision; i.e., in places where businesses are working together to create a new node.

Pursuing a form-based code for the US Route 1 corridor can be a useful conduit for implementing these suggestions. For instance, a form-based code provides additional flexibility for the site by transferring the regulation of the use from the underlying zoning to the private market. Instead of the City determining the use of a parcel, which goes hand in hand with parking regulations, the form-based code enables the use to be determined by the function of building form. While this does not directly deliver assembled land, the additional flexibility enables developers to be more creative with types of uses that can occupy the designated parcels. This dynamic is occurring in the implementation of the Columbia Pike Form-Based Code, where land assembly is occurring through private land owner interaction because of the recognized fiscal and aesthetic benefits created by the form-based code. Additional support for assembly comes from the through reduced parking requirements and financial incentives, including a flexible tax increment public infrastructure fund. See Appendix C for additional specifics.

Other resources provide additional information about best practices in land assembly. For instance, the Urban Land Institute hosted a forum in 2004 to discuss the Obstacles and Challenges of Land Assembly. The report of this work entitled "Barriers and Solutions to Land Assembly and Infill Development"[32] discusses market dynamics that affect the development of land. Forum participants represented the public and private sectors and illustrated various perspectives on solutions for land assembly to achieve infill development.

[32] http://www.uli.org/AM/Template.cfm?Section=Policy_Papers1&CONTENTID=14658&TEMPLATE=/CM/ContentDisplay.cfm

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4 ENVIRONMENTAL OUTCOMES AND OPPORTUNITIES

4.1 Environmental benefits of achieving the US Route 1 vision

The Washington, DC metropolitan area is expected to add 2 million people and 1.6 million jobs over the next 25 years. Development to house new residents and locate additional employees will be located in urban, suburbs and rural areas based on priorities established at the government level throughout the region. Prince George's County contains this transect of development types ranging from largely built communities like College Park and its surrounding neighborhoods to the low density, single uses found in rural sections of the county around Upper Marlboro. Recent County plans are focused on more efficient use of land and infill opportunities that locate development in areas served by existing infrastructure.

The Team's options will help College Park achieve its vision of accommodating additional growth in the US Route 1 corridor, reducing growth pressure elsewhere in the county. The same amount of development placed in a lower density area of the county would consume larger amounts of open space and increase the amount of driving, especially trips generated to points in College Park such as the University.

Achieving the vision in the US Route 1 corridor will also help limit impacts to area and regional water quality. Focusing growth and development along the corridor, especially taking advantage of infill sites, will create less new imperviousness, lead to fewer auto emissions, and re-use already degraded land or already created imperviousness. Reduced auto emissions benefit not only air quality; one-third of the nitrogen found in the Chesapeake Bay is from mobile sources deposited in the water.

Want more Information?

EPA recently released, "Protecting Water Resources with Higher Density Development." This study helps guide communities through the density debate to better understand the impacts of high- and low-density development on water resources. Check it out at: http://www.epa.gov/smartgrowth/pdf/protect_water_higher_density.pdf.

4.2 Additional environmental protection opportunities

To fully protect natural resources, communities must employ a wide range of land-use strategies based on local factors. The 2002 Sector Plan provides an Environmental Framework for preserving and enhancing the natural and scenic environmental resources of the corridor. The County and City use land uses controls for: public park acquisition or dedication, floodplain areas, stormwater management, use of unsafe land, protection of wetlands, provision of stream buffers and protection and restoration of woodlands.

Beyond these strategies, focusing new development in the corridor at dense, mixed-use nodes will help protect water resources at the regional and city scales. However, compact development can create more site-level impervious cover, which can increase water quality problems in nearby or adjacent waterbodies. Numerous site-level techniques are available to address this problem. Many of these practices incorporate low-impact development techniques (rain gardens, bioretention areas, and grass swales). These nontraditional approaches work well in dense urban areas because they use the existing elements of a neighborhood, such as roads, roofs, abandoned shopping malls, or courtyards, and add some engineering to landscaping elements, to help retain, detain, and treat stormwater on site. When done well, these approaches both reduce stormwater runoff and add value to a community.

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Figure 15: Vegetation used for stormwater management at University View

New and redeveloped parcels can employ these strategies. For example, University View employs some on-site stormwater absorption through vegetation located in storm drains (Figure 15). Parcels adjacent to the Paint Branch need to be developed with care to ensure minimal impacts to natural resources.

Following are a few examples of communities with innovative stormwater programs for dense urbanized areas, which College Park may wish to draw on.

The city of Portland, Oregon, has been a pioneer in developing site-specific stormwater strategies that reduce stormwater runoff, enhance community character, and save money. Portland is required, under various provisions of the Clean Water Act, to reduce pollutants in its stormwater discharges and reduce combined sewer overflows. In addition to installing traditional engineered systems, the city has constructed numerous vegetative systems that are integrated with urban design as a way to minimize runoff.

The City of Emeryville, a first-ring suburb in the San Francisco Bay area, wanted to meet new standards for water quality and improve the environmental sustainability of continued revitalization efforts. The resulting "Stormwater Guidelines for Green, Dense Redevelopment: Stormwater Quality Solutions for the City of Emeryville"are available at: www.ci.emeryville.ca.us/planning/pdf/stormwater_guidelines.pdf.

Last, a development in Tacoma, Washington, shows the effectiveness of addressing stormwater at the site level by increasing densities. Tacoma's Salishan Housing District was built on the city's eastern edge in the 1940s as temporary housing for ship workers. It is currently a public housing community with 855 units. Redevelopment will increase densities to allow 1,270 housing units (public housing, affordable and market rate rentals, and for-sale units), local retail, a senior housing facility, a health clinic, an education-technology center, and an expanded community center. An important priority is restoring the water quality of the T-Street Gulch, which feeds into Swan Creek and ultimately into the Puyallup River.

The redevelopment will reduce impervious surface area, treat runoff on site, and provide areas for run-off infiltration. In addition, wetlands and buffer areas along the gulch have been restored and enhanced using native vegetation, and pedestrian paths have been integrated into swale and buffer areas. Planners estimate that when the redevelopment is finished, 91 percent of the runoff will be treated and infiltrated

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through bio-swales located next to streets and on the periphery of the T-Street gulch. The water flowing into the gulch will be clean.

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5 APPENDICES

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APPENDIX A: THE SMART GROWTH IMPLEMENTATION ASSISTANCE PROGRAM

Communities around the country want to foster economic growth, protect environmental resources, and plan for development; in many cases they may need additional tools, resources or information to achieve these goals. In response to this need, the Environmental Protection Agency's Development, Community, and Environment Division (DCED) has launched the Smart Growth Implementation Assistance Program to provide technical assistance—through contractor services—to selected communities.

The goals of this assistance are to improve the overall climate for infill, brownfields redevelopment, and the revitalization of non-brownfield sites—as well as to promote development that meets economic, community, and environmental goals. EPA, with its contractor ICF Consulting, assembles teams whose members have expertise that meets community needs. While engaging community participants on their aspirations for development, the team can bring their experiences from working in other parts of the country to provide best practices for the community to consider.

Communities around the country are looking to get the most from new development and to maximize their investments. Frustrated by development that gives residents no choice but to drive long distances between jobs and housing, many communities are bringing workplaces, homes, and services closer together. Communities are examining and changing zoning codes that make it impossible to build neighborhoods with a variety of housing types. They are questioning the fiscal wisdom of neglecting existing infrastructure, while expanding new sewers, roads, and services into the fringe. Many places that have been successful in ensuring that development improves their community, economy, and environment have used smart growth principles to do so (see box). Smart growth describes development patterns that create attractive, distinctive, and walkable communities that give people of varying age, wealth, and physical ability a range of safe, convenient choices in where they live and how they get around. Growing smart also ensures that we use our existing resources efficiently and preserve the lands, buildings, and environmental features that shape our neighborhoods, towns, and cities.

SMART GROWTH PRINCIPLES

1. Mix land uses
2. Take advantage of compact building design
3. Create housing opportunities and choices
4. Create walkable communities
5. Foster distinctive, attractive communities with a strong sense of place
6. Preserve open space, farmland, natural beauty, and critical environmental areas
7. Strengthen and direct development toward existing communities
8. Provide a variety of transportation choices
9. Make development decisions predictable, fair, and cost-effective
10. Encourage community and stakeholder collaboration in development decisions.

From: The Smart Growth Network, www.smartgrowth.org

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APPENDIX B: SITE VISIT DETAILS

List of Participants

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Special thanks to Mayor Brayman for allowing the Team to use the City's excellent facilities.

Workshop Participants

Participants in the workshops represented a wide range of viewpoints and interests. We had participation from property owners, businesses, real estate professionals, interested citizens, utilities, and others. The participants listed have been consolidated from sign-in sheets that were circulated during the public meetings and are included for reference purposes only. This list may not represent the full number of attendees. Individuals may not have seen the sign-in sheet at the meetings or they may have chosen not to sign in.

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Hadi Quaiyum
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Joe Powers
Larry Bleau
John Gannetti
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Claudine Myers
Stephanie Stullich
Stacy Baca
Emma Baca
Tom Dernoga
Stephen Brayman
Chris Behnke
Jonathon Haieh
Andrew Fellows
Moll Primm
Carlton Sue
Joe Chang
Eileen Nivera
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Jay Bhalani
Dennis Jehalian
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Claire Sale
Elisa Vitale
Dorothy Friedman

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Partial list of documents reviewed

1. US Route 1 Sector Plan, 2002

2. Goals and Policies from City of College Park Housing Plan, 2003

3. Route 1 Chapters from City of College Park Comprehensive Plan, 1995

4. Goals and strategies from City of College Park Economic Development Plan, 2005

5. Prince George's County General Plan Summary

6. Resolutions of Approved Projects under Sector Plan
   - University View Subdivision and Detailed Site Plans
   - Jefferson Square Subdivision and Detailed Site Plans
   - StarView Plaza Subdivision Plan
   - Mazza Property Subdivision Plan
   - Northgate Park Subdivision Plan

7. Map of Projects

8. Approved Site Plans and Elevations

9. Summary of Planned and Approved Projects

10. Economic Development Update Newsletter

11. Summary of US Route 1 Transportation Studies (SHA)

12. US Route 1 Corridor Study by SHA (excerpts from FONSI)

13. Economic Development Strategy for the Route 1 Commercial Corridor (consultant report)

14. Guiding Principles for Northgate Area of Route 1 (CPCUP)

15. Draft Scope of Work for Route 1 TDM Study by M-NCPPC (new)

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Schedule

EPA SMART GROWTH FACILITATED MEETINGS				
January 19-21, 2006 and MARCH 28, 2006				
	THURSDAY JAN. 19	**FRIDAY JAN. 20**	**SATURDAY JAN. 21**	**TUESDAY MARCH 28**
8 AM – 9 AM	EPA/SG TEAM TRAVELS TO COLLEGE PARK	TEAM MEETING	OPENING AND GENERAL FACILIATION	
9 AM – 10:30 AM		SITE VISIT OF ROUTE 1 CORRIDOR AND DISCUSSION WITH PLANNING DIRECTOR	ECONOMIC DEVELOPMENT	
10:30 AM – 12 Noon			LAND USE, DESIGN AND CODING	EPA STAFF MEETS WITH PLANNING DIRECTOR
12 Noon – 1 PM		LUNCH	LUNCH & PUBLIC DISCUSSION WITH TEAM	
1 PM – 2:30 PM		STAKEHOLDER INTERVIEWS	TRANSPORTATION	TEAM PRESENTATION TO COUNTY STAFF
2:30 PM – 3:30 PM			TEAM WORK SESSION	
3:30 PM – 5 PM			CONCLUSIONS AND WRAP UP	
5 PM – 6 PM			TEAM DEBRIEF	TEAM MEETING AND DINNER
6 PM – 7 PM	DINNER AND TEAM MEETING		EPA/SG TEAM DEPARTS	
7 PM – 8 PM		TEAM MEETING		TEAM PRESENTATION TO COLLEGE PARK CITY COUNCIL

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APPENDIX C: CASE EXAMPLES

The Team developed these case examples to assist in discussion with the City and stakeholders. They were distributed at the January 21, 2006 public meeting.

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Columbia Pike Special Revitalization District

Arlington County Zoning Ordinance Section 20 (Appendix A) –"CP-FBC"

Adopted February 25, 2003

Arlington County, Virginia; State Highway Rte 244

Columbia Pike Vital Statistics

Average Daily Traffic: 30-40,000
Through Lanes: varies, 4 to 6
Typical Right of Way:
varies, 75 to 120 feet
Adjoining land uses:
Retail, office, multi-family residential, civic
Transit: bus, 10,000 daily riders; 5-minute rush hour headway

Context

Arlington, Virginia—an urban county inside the Beltway directly across the Potomac River from Washington, DC—has seen explosive development along the Metro [subway] corridors over the past 30 years while Columbia Pike, the "main street" for the southern portion of the county, has languished.

The Pike, a historic thoroughfare from the Pentagon to the Arlington/Fairfax County Line, saw virtually no development throughout the boom years of Northern Virginia. It resembles any number of strip commercial zones across the United States: an "arterial" that carries approximately 30,000 vehicles a day (a figure that has remained stable over the past 20 years); a street that varies in width from 4 to 6 lanes; lined primarily with parking lots and one and two story structures, built primarily from post-WWII to the early 70s; a mixture of local retail and some national chains, fast food, new and used car dealerships, several large garden apartment complexes, and a few high rise apartments and condominiums.

Background

The Columbia Pike Revitalization effort was initiated by Arlington County to bring new life to this 3.5-mile urban corridor. The County leadership—elected Board, county staff, and the quasi-governmental community-based Columbia Pike Revitalization Organization (CPRO)—recognized that the Pike represented the most underdeveloped area in a county that is otherwise built out. They wanted to encourage redevelopment, but at the same time, wanted to direct/control the *type* of development – creating a mixed-use, pedestrian environment (which was virtually non-existent) while planning for future light rail or bus rapid transit (BRT) along the corridor; retaining the ethnic/eclectic diversity of the community; and maintaining small, locally owned businesses and existing affordable housing.

CPRO and the county staff embarked on a 150-meeting, two-year educational and visioning process, meeting with local business and property owners, the many neighborhood and condo associations along the Pike, etc., and producing a preliminary vision of what the community desired for Columbia Pike. The County Board endorsed a plan in March 2002, "The Columbia Pike Initiative: A Revitalization Plan," that targeted specific areas for redevelopment and introduced New Urbanist concepts.

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During this period, the County recognized that the tools then available—the existing Euclidean zoning ordinance, which addressed the usual items of land use, floor-area ratio, and building setbacks—could not and would not produce the desired results (a traditional Main Street), but rather, more of the same. The old code produced suburban sprawl – requiring setbacks, on-site parking, etc. – and used developer proffers in attempt to achieve desirable development, which were time-consuming as well as ineffective/non-existent where and when the economics for redevelopment were not strong. Even traditional "urban design guidelines" would not get at the root of the problem: the creation and definition of the street or public space. Arlington County was looking for a new tool—a mechanism that would move the plan from concept to reality, not another vision plan that would not self-implement.

Form-Based Coding

With a clear form-based code, owner and neighbor can easily see and understand the possibilities for future development. Unlike Euclidean Zoning, which segregates housing, recreation, workplace and government into distinct zones of land use, the form-based code sets careful and clear controls on building form, with broad parameters on building use, to shape clear public space (good streets, neighborhoods and parks).

The base principle of form-based coding is that *design is more important than use*. With proper urban form, a greater integration of building uses is natural and comfortable. This principle is not dogma, however, and recognizes that there are exceptions to its rule. There have always been "noxious uses" (whether biologically or socially so) that must be kept separate from our neighborhoods. Also, by its nature, retail activity gains synergy from other adjacent retail uses. Form-based coding recognizes and addresses these conditions.

Simple and clear graphic prescriptions and parameters for *height*, *siting* and *building elements* address the basic necessities for forming good streets. Most allow variation within parameters (building height may vary, for instance): however, some are straightforward prescriptions (such as the *build-to line* for main street buildings). Where conventional zoning controls land use to an extreme level of specificity, form-based coding fosters and protects a healthy balance, while allowing small-scale market economics to function, by establishing broad parameters for *uses*. For short-term implementation purposes, it is perfectly appropriate to target a specific mix of uses.

By keying the form-based code to the street frontage, the code provides a different kind of "zoning"— one relative to the logic of the street. Form-based coding provides detailed information about building possibilities (parameters) to landowners and neighbors. In addition, a clear master plan, implemented/enforced through the regulatory instrument of form-based coding, allows smaller landholders the advantages of participating in a larger project (synergy and predictability).

Similarly, the County Office of Economic Development provided additional impetus for the next step in the Columbia Pike Revitalization Initiative. They recognized that, in addition to the problems caused by the existing development regulations and approval process, the market gap between the County's metro corridors and the Columbia Pike corridor were also a significant hindrance to the redevelopment of the area. Although land costs were less, in all other aspects the cost (and time) for development and construction were the same. The market demand on Columbia Pike was not strong enough to make up that difference, so as long as the status quo remained in place, the expectation was that the Pike corridor would remain moribund. The Columbia Pike Development Fund, established by the County Board and

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administered through the Economic Development office, was used to hire the consultants to lead the charrette and write the form-based code.

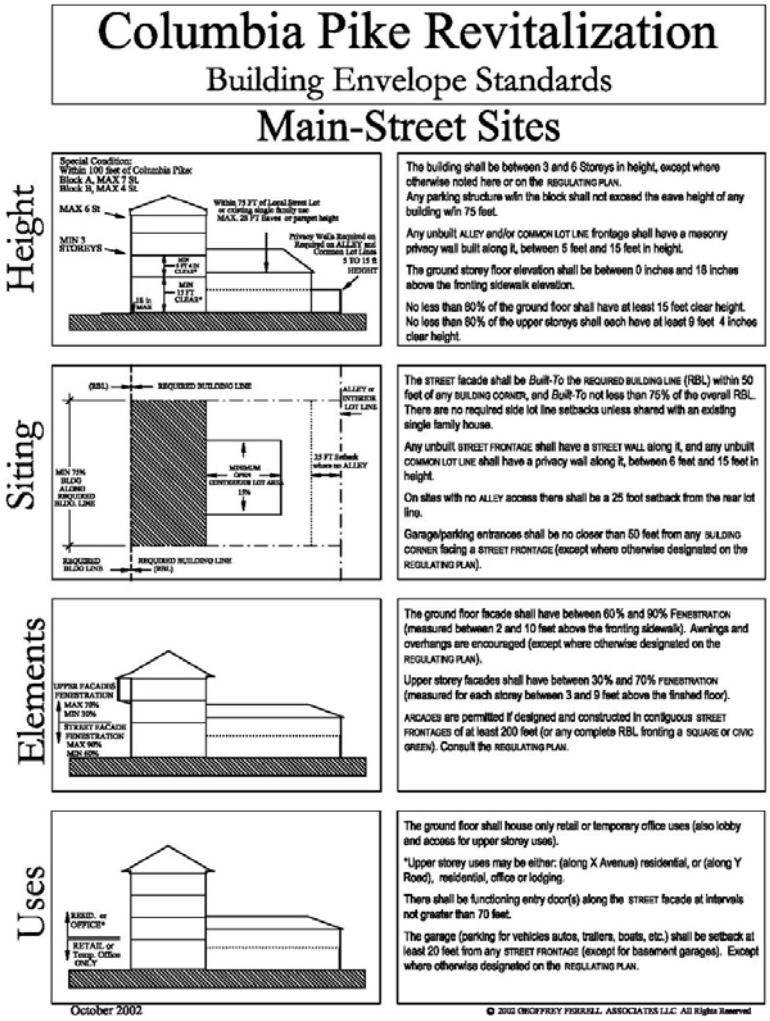
Ultimately, the master plan and form-based code were "incentivized" through a streamlined administrative approval process and a few economic development tools, including a flexible tax increment public infrastructure fund, a rehabilitation tax exemption, establishment of a technology zone, and a parking strategy that includes a role for the public sector.

The Process

The County hired Dover, Kohl & Partners and Ferrell Madden Associates (through a public RFP process) to carry out a week-long public design charrette to develop a more specific Masterplan for the corridor as well as a *form-based code* to amend the zoning ordinance for the designated revitalization districts. Simultaneously, the County developed a new set of economic development tools (described more fully below) to work in conjunction with the new development regulations.

During the charrette week, the community was able to move beyond the NIMBY position of reacting to (and typically against) individual projects and more clearly define *what* they wanted and *where* – as well as the type of public amenities they expected. At the same time, the team further educated an already enlightened and savvy community about the idea of a form-based code; not only how it differs from Euclidian land use-based zoning, but also how it works from concept through implementation:

- the simplification and graphic nature of the code (regulating plan and building envelope standards);
- the idea that code is prescriptive / that the public site plan review process would be completed in advance; and that
- the architectural regulations could be as tight or loose as the community desired.



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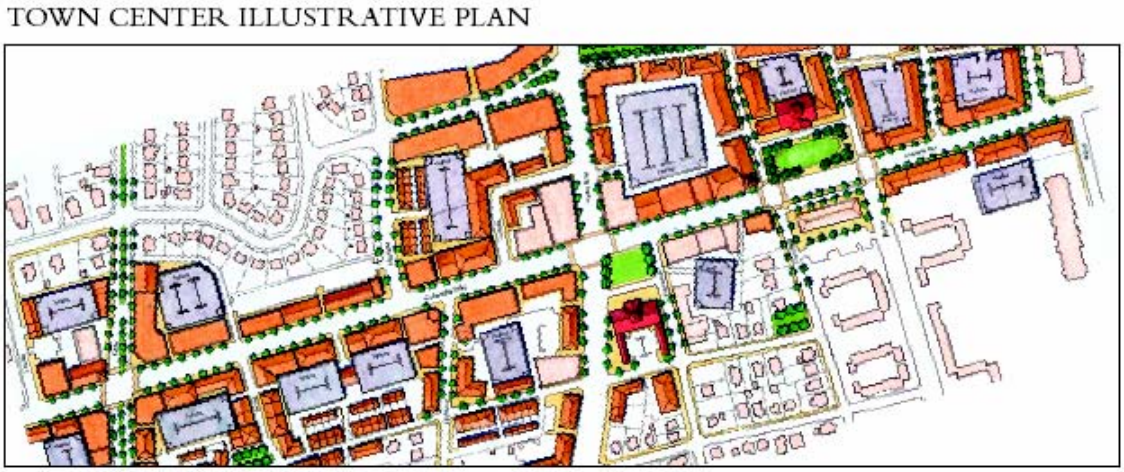
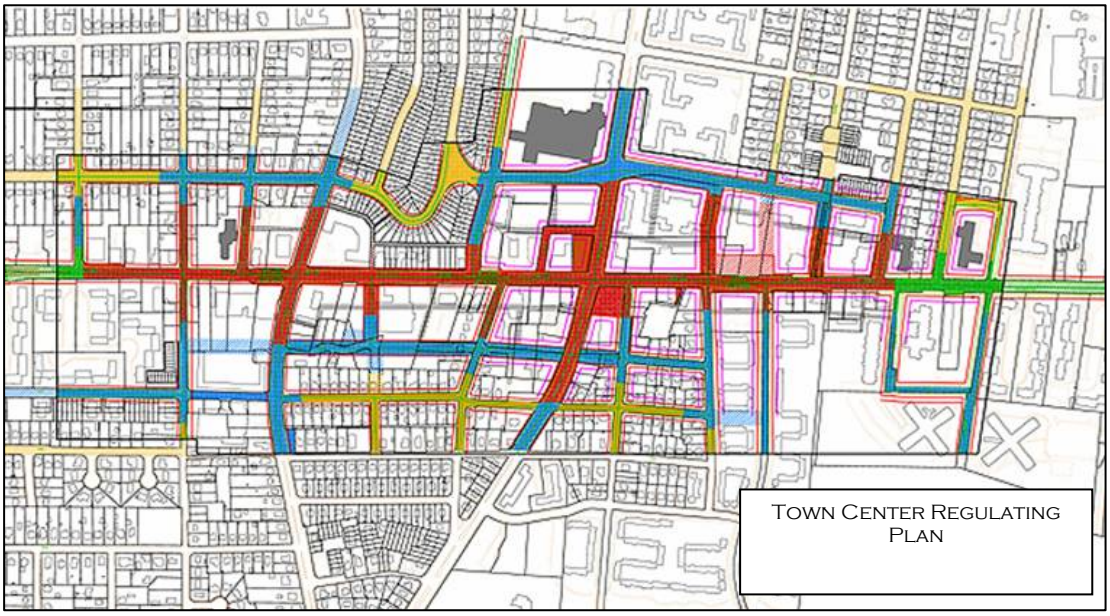
The drawings (and ideas) produced by the community during the charrette were synthesized into an illustrative Masterplan (providing a potential build-out scenario), and then coded in the Regulating Plan and Building Envelope Standards for the designated Revitalization Districts. These cover four sections of the Pike and its intersecting and immediately parallel streets.



The Community Vision



The regulating plan translates the vision to site specific development standards.

The result, as envisioned by the community, is illustrated in the following sequence.

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How form based coding shapes development

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Politics and Passage

Following an intense six-month period of work by the consultants and county staff—including more community meetings and hearings before the Planning Commission and County Board—the Columbia Pike Form-Based Code (CP-FBC) was adopted by the County Board as a new section of the zoning ordinance in February 2003. Compared to similar efforts, whether in Arlington County or elsewhere in the U.S., amending the zoning ordinance for Columbia Pike and approving the new Form-Based Code was an expedited process. Time to prepare and adopt: Community education and visioning process: 18 months. Drafting Form-Based Code and adoption: 6 months.

This rapid change could be attributed to several factors, including, in no particular order:

- A county leadership who desired change for the Pike and recognized that "business as usual" would produce the usual results
- A lengthy public visioning/educational process
- The decision to make the CP-FBC an optional overlay, which removed/lessened the possibility of the issue of "takings" or "downzoning"

Before adoption, there was considerable debate/discussion on three issues in particular, each of which were resolved/addressed in different ways.

- Parking
- Street Width(s)
- Historic Properties

New Development and Design Regulations: Content and Administration

The new Form-Based Code is optional, a decision made by the County to avoid any potential "takings" issues. It has no impact on existing buildings and uses. In addition, if they choose to do so, all property owners still have the right to redevelop using their existing underlying zoning and by-right options, or to proceed through the County's alternative "Site Plan" approval process.

However, most of the parcels along the Pike were simply not developable under the existing zoning—whether due to current requirements, such as on-site parking, or economic feasibility under the by-right FAR. Prior to the passage of the CP-FBC, developers had been hesitant to use the "site plan" process along the Pike to address the site limitations (even though it has been used extensively by developers in other areas of the County, particularly the Metro corridors). The site plan process has come to be viewed as cumbersome, unpredictable and very expensive. On Columbia Pike, where return on investment for new development pales in comparison to other areas of the County, site plan is simply not considered an option by property owners and the development community.

The CP-FBC approval process is streamlined. For all properties less than 40,000 sf, development under the CP-FBC is a by-right option with approvals handled administratively by county staff in 30 days or less. For properties over 40,000 sf, the projects can proceed under an expedited special exception use permit process, as long as the development follows the FBC. Approval under special exception is expected within sixty days. In both cases approval is based on an objective set of standards rather than a particular planning commissioner's, County Board member's, or community activist's like or dislike of the day. They are review processes, not opportunities for individuals to redesign the project or Code.

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To ensure that the FBC is being followed and that the community is aware of the projects prior to approval, the County has established a notification process for the affected/adjacent neighborhood associations and their representatives are included on the Administrative Review Team.

The Code is organized around a series of street frontages—"main street", "local street", "avenue", and "neighborhood street"—with *building envelope standards* established for each. In addition there are architectural standards—essentially a "dress code"—which are fairly loose (the community desired an eclectic style, rather than limiting new development to any particular aesthetic), primarily addressing windows, materials, doors, roofs, and walls and fences, etc.

Progress: New Projects Following the Form-Based Code

Several mixed-use redevelopment projects are in various stages of the County proposal and review process. Several property owners and developers are in discussion with County staff and the Revitalization Organization to determine what is possible on their properties under the new Code and several properties have changed hands or are on the market. New development valued at over $1 billion, in more than 10 separate projects, is now in the design and/or construction stage. All of this activity has begun since the creation of the Columbia Pike Initiative and the passage of the form-based code—in a geographic area that had only seen the development of a couple of fast food restaurants and a drive-through national drugstore chain in the past three decades.

In a particularly positive example of the power of the FBC, a townhouse redevelopment project has been approved and is under construction on a property immediately adjacent to the revitalization district. Although the CP-FBC did not apply because it was outside the district, when the developer initially unveiled the proposed project to county staff and the surrounding property owners, the neighborhood requested that the developer follow the FBC because they knew what to expect. By following the FBC, the developer worked with the community and gained their support for the project. The project then moved through the process in the minimum period of time, received positive testimony by the affected neighborhood associations, and was approved unanimously by the County Board.

Community goals fulfilled by the Form-Based Code

Each of the following features will contribute to the overall design and scale of the Pike, creating the desired pedestrian-oriented main street and village center environment.

▪ *Allow a variety of uses to create vitality and bring many activities of daily living within walking distance of homes*

All of the FBC frontage designations, with the exception of *neighborhood street*, allow for a mix of uses, with shopfront buildings being required on the *main street* areas, (with the expressed intent of requiring ground floor retail, although there is some flexibility initially) with either office or residential above.

▪ *Foster Mixed Residential Density and Housing Types*

A mixture of housing types are allowed on different street types—from apartments, to townhouses and live-work units, to detached single family—and regulated by placement on the lot and mass, rather than density. In addition, the Code expressly allows accessory and English basement units.

▪ *Stimulate Infill and Rehabilitation Activity*

The Code was created to stimulate and then shape infill development.

- If property owners choose to redevelop under the more prescriptive Form-Based Code, they gain more development potential than under current by-right zoning.

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- Use of the code also opens the door to use of the County economic development fund. The fund was created specifically to spur appropriate growth on the Pike.
- Small properties have been relieved of on-site parking requirements, providing owners with greater flexibility/ability to redevelop or rehabilitate their properties. This leads to two significant benefits. The community is no longer held hostage waiting for a large developer to assemble parcels and build a "mega project" when "the market" is ready. Secondly, it responds to the community's desire to maintain an eclectic mix of building types and businesses by promoting small scale development by existing property and business owners.

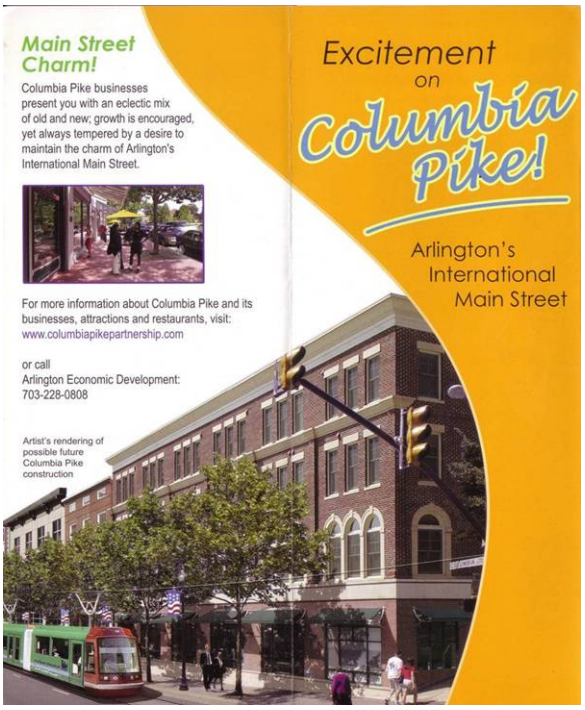
▪ *Building Design and Scale*

The Code specifically addresses design and scale through the Regulating Plan, Building Envelope Standards, and Architectural Standards in a number of ways:

- Limits the maximum floor-plate of new construction
- Requires that individual large building façade composition be broken up to read as separate buildings at prescribed minimum-average intervals
- Provides minimum and maximum heights (based on stories rather than feet)
- Requires functioning street entries at maximum average distances
- Forbids parking lots and structures at the street frontage
- Requires interior block vehicular access through the creation of an alley system
- Reconnects streets through some existing mega-blocks.
- Provides incentives for protection and inclusion of "historic" structures and facades in new development

Economic Development

Although the new development regulations and process—the form-based code—represents the primary tool for stimulating development and redevelopment, the county has established several other instruments. These economic development tools include: a flexible tax increment public infrastructure fund (TIPIF), a rehabilitation tax exemption, establishment of a technology zone, extra development potential for preserving or renovating historic structures, outreach by the small business assistance network, and a parking strategy that includes a financial role for the public sector. *New development valued at over $1 billion, in more than 10 separate projects, is now in preliminary design, administrative review or construction.*



The TIPIF operates similarly to a TIF, but was established to provide public investment in infrastructure for individual major redevelopment projects, (such as replacing sidewalks, undergrounding utilities, or building a parking structure) that could

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make a difference in whether or not a specific project moved ahead, as well as for other public infrastructure or amenities that would support the entire corridor revitalization effort.

Arlington County already had a Rehabilitation Tax Exemption. However, in conjunction with the new development regulations, the exemption was amended in 2003 to make it more flexible by broadening the eligibility requirements, increasing the emphasis on new construction, and expanding the areas in the corridor in which the exemptions applied.

Similarly, the Technology Zone, which reduced the Business Professional Operational License, was already in existence. In 2003, the geographic area was expanded to include all of the areas within the Columbia Pike revitalization districts.

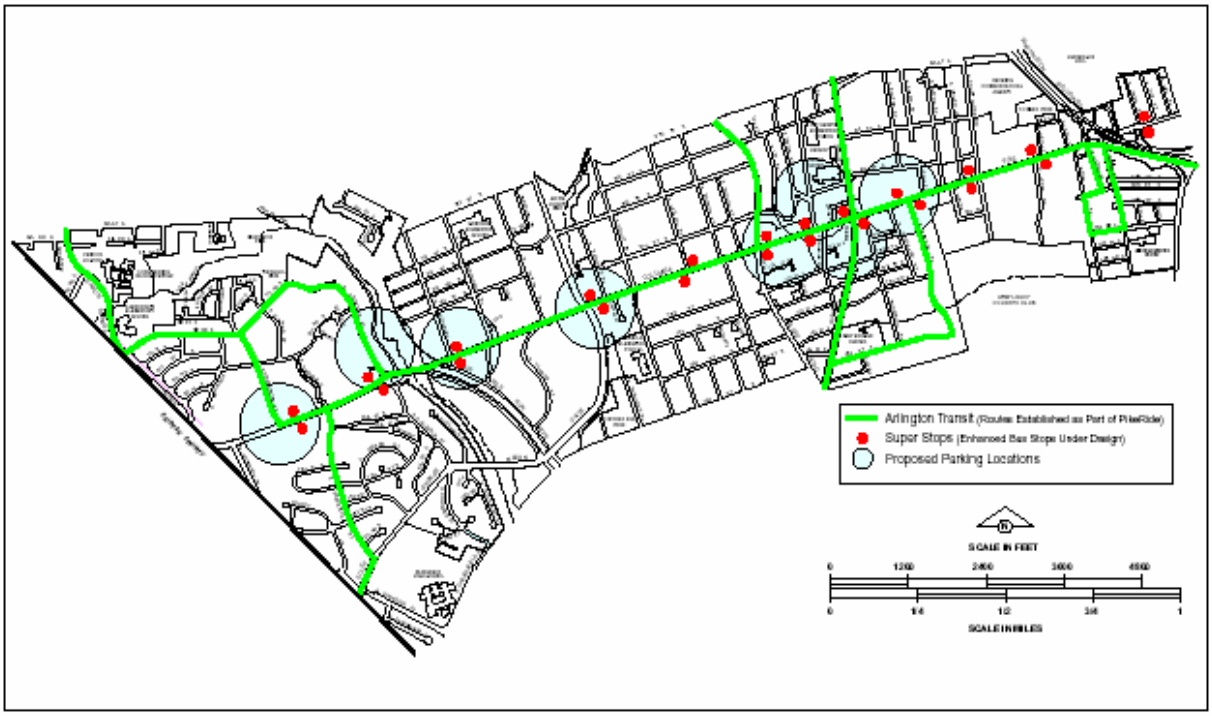
Additional incentive to renovate or restore historic buildings was provided by allowing two additional stories to be built, within the same overall building envelope height, when the original building was preserved and incorporated in a redevelopment project. This tool has proved to be rather popular and is currently being reviewed by the County.

The Small Business Assistance Network and the Columbia Pike Revitalization Organization have undertaken research and outreach specifically to support and provide resources to the existing small businesses along the Pike. This effort has included promotional materials (above image) as well as community events, such as the annual blues festival, to attract people to the Pike community.

Perhaps most significantly, the County has taken a proactive role to create a “park once” environment. This has included developing a parking strategy for the Pike that includes flexible parking solutions, such as public participation in the creation of shared parking, as well as enhanced public transportation.

Note that the parking and transit plan is part of the economic development of the corridor.

TRANSIT IMPROVEMENTS AND PROPOSED PARKING LOCATIONS



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Current conditions

Possible BRT

Could transition to LRT

Transportation

Today, the Columbia Pike corridor is the busiest local bus corridor in Virginia, but the revitalization plan also incorporates the anticipated evolution to streetcar, light rail or bus rapid transit. The plan designates four "centers"— each to have at least one future transit stop—where more dense, mixed-use redevelopment is encouraged through the FBC. The Departments of Public Works and Planning worked with the consultant team to establish minimum street standards for the future transit-way—street widths, sidewalks, tree pits, medians—while maintaining pedestrian-oriented centers throughout the long-term redevelopment of the Pike.

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Four designated transit-oriented centers

Columbia Pike originated as a transportation corridor approximately two centuries ago, and changed character several times. One significant recent change brought about by the charrette and form-based coding was a redefining of, or shift in thinking about, the concept of "street". No longer does "street" just mean the travelway in the Columbia Pike community. *Street* includes the entire public space between building faces. This means the street (and related public policy and investment) should be shared by pedestrians, bicyclists, public transit riders *and* drivers.

As a result, the County has undertaken several pedestrian and bicycle initiatives. Improving sidewalks and pedestrian facilities, and providing safer crossings of the Pike, has been a priority. Planning is underway to establish parallel bike routes throughout the corridor, as well as bicycle lanes on the Pike (where appropriate) as redevelopment occurs.

Street Space Task Force

In conjunction with passing the Code, the County Board established a citizen task force to review the recommended street space standards, with particular focus on the necessity of dedicated lanes for future transit development. Citizens were concerned that dedicated lanes would provide little benefit in reducing travel times while greatly detracting from the pedestrian environment by creating an extremely wide right-of-way at the western end of the Pike.

The task force focused on several issues relating to street space and the pedestrian realm, ranging from traffic speed, lane widths, dedicated transit lanes to crossing distances, the importance of street trees and on-street parking, and the way in which the character of the Pike—and therefore street sections—could change across the length of the County. The task force meetings included technical input and assistance from the relevant county staff and transit and urban design consultants, as well as Virginia DOT (VDOT), the Washington Metropolitan Transit Authority (WMATA) and other pedestrian and transportation consultants from across the country. This effort produced recommendations and supporting documents, the *Columbia Pike Street Space Planning Task Force Report*, delivered to the County in 2004.

Parking as part of the Comprehensive Transportation Plan

In order to relieve citizen anxiety, the County has begun considering parking as public infrastructure. Although the FBC included specific standards to enhance the pedestrian environment, such as not allowing above-grade parking within 25 feet of the required building line (which in effect forbids surface parking at the street and indirectly requires parking structures wrapped by liner buildings) and relieving small properties of on-site parking requirements, the County fully engaged in the parking issue, developing a multi-faceted parking strategy, addressing such issues as public and shared parking, off-peak on-street parking, fees in lieu of providing parking, zone stickers for adjacent residential areas, etc.

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Key tools

- An upfront *public participation charrette* process solidified community support and coordinated multiple government entities (crucial due to the complex character of the area: multiple parcels and property owners; numerous stakeholders; and involvement of multiple levels of government).

- The *form-based code is a regulatory document*, part of the zoning ordinance rather than a set of guidelines. Provides predictability for citizens and developers.

- *Parking is managed as part of a comprehensive community plan*, not wholly delegated to individual property owners.

- County approaches the initiative as an interdisciplinary endeavor. Implementation staff come from both Departments of Planning and Economic Development and of Department of Public Works.

Resources

Columbia Pike Form Based Code
http://www.doverkohl.com/project_graphic_pages_pfds/Columbia%20Pike.pdf

Form Based Zoning, Columbia Pike as example: http://www.planning.org/pas/member/pdf/QN1text.pdf

APA Planning Advisory Service Report
http://www.planning.org/bookservice/description.htm?BCODE=P526

Arlington County information re: Columbia Pike
http://www.arlingtonva.us/Departments/CPHD/Forums/columbia/CPHDForumsColumbiaColumbiaPikeInitiativeMain.aspx

Columbia Pike Partnership
http://www.columbiapikepartnership.com/FORM/index_E.html

Presentation at RailVolutions
http://www.railvolution.com/rv2005_pdfs/rv2005_325d.pdf

Columbia Pike signalization
http://www.gmupolicy.net/its/Signalpriorization_files/Signalpriorization.htm

Article about trolleys on Columbia Pike
http://www.washingtonpost.com/wp-dyn/content/article/2006/01/11/AR2006011100762.html

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El Camino Real

Palo Alto, California; State Highway Route 82

El Camino Real
Vital Statistics

Average Daily Traffic: 45-55,000
Through Lanes: 6
Typical Right of Way: 120 feet
Length of Section: 4.3 miles

Adjoining land uses:
Educational, commercial, multifamily residential

Context

El Camino Real is the oldest road in the west, and a dominant local feature in the city of Palo Alto, which is halfway between San Jose and San Francisco. It serves significant local and regional traffic as a principal arterial. It carries substantial bus traffic, and is close to a major commuter rail station. Some locations see major pedestrian movement, with high street crossing volumes at commercial and school crossings. Finally, El Camino Real serves local bicycle trips.

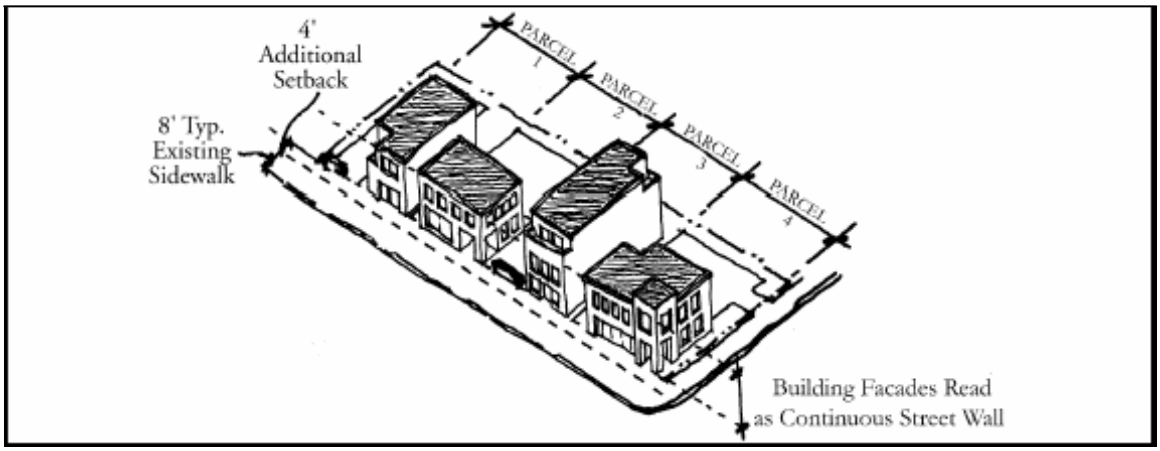
Land uses along El Camino Real in Palo Alto include major commercial development, most of which is auto-oriented, and a bit of which is pedestrian-focused, such as retail shops and restaurants. Multi-family housing appears along the street at numerous locations. Design of these uses varies, with mid-century development featuring front-facing parking lots, large setbacks, and little architectural detail, and both older and newer development featuring side- or rear-located parking, smaller setbacks, and greater architectural detail. Stanford University abuts El Camino Real on the west side of the northern end of the section. Nearby land uses include major activity centers such as business parks, mixed-use downtown areas, and a regional shopping mall.

Little vacant land exists along El Camino Real, but substantial growth is projected for the city and the region, and it is expected that a significant portion of the city's growth will occur along this street, especially as a location for multifamily housing.

The City of Palo Alto and Stanford University recognize the changing role of El Camino Real and want to transform the corridor into a mixed-use urban inner-city arterial complete with street-oriented uses, wide sidewalks, adequate lighting, bike paths and other appeals to the community.

Design Guidelines

The El Camino Real project addresses the character and form of the buildings and private sector land not through specific development *regulations* but through *design guidelines* that serve to frame the discussions between the community (& its adjudicative review boards) and the developers/builders.



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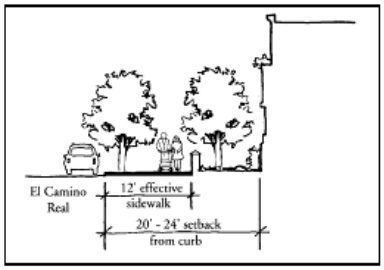
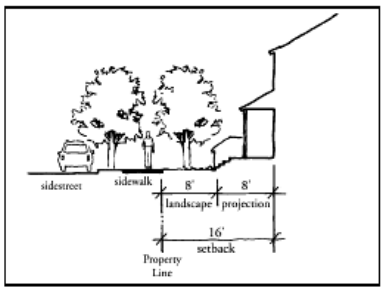
Nationally, this is a conventional approach, leaving the implementation of the vision/master plan in the realm of local politics and procedure. Much then depends on the level of public involvement and other 'political' contingencies – development is left in the realm of negotiation. Quoting from the document:

> *… The purpose of these design guidelines is to:*
>
> *• Provide a set of guiding design principles for public officials, developers, designers and the community* ***with which to anticipate, evaluate and encourage appropriate*** *development;*
>
> *• Give the jurisdiction* ***tools to evaluate and direc****t project design;*
>
> *• Provide developers with clear direction as to what type and quality of development the city* ***desires****, anticipates and will approve;*
>
> *• Give the community a better understanding as to what type and quality of development the city and community should anticipate and expect along South El Camino Real…*
>
> *… The design guidelines will be* ***extensively used by the review boards****, including the Architectural Review Board (ARB), the Planning Commission and the City Council. The guidelines are* ***intended to direct the project design process toward solutions*** *that, given site conditions and the requirements of the development program, best meet city goals and community values and expectations.*



GUIDELINES 7.1.1 & 7.1.2. Exclusively residential projects are required to be setback 20-24 feet from the El Camino Real curb with a 12-foot effective sidewalk lined by double rows of trees.

GUIDELINE 7.1.2. Low screen walls and shrubbery may be used to create privacy between the sidewalk and adjacent residences. Sidewalks must be at least 8 feet wide, lined with a row of trees on each side.



GUIDELINE 7.1.4. Residential projects are required to be setback 16 feet from the sidestreet property line, with a sidewalk lined by a double row of trees. Stoops and porches may project eight feet into the setback.

The ultimate regulatory force of the *El Camino Real Design Guidelines* aside, these are an excellent presentation of the ***type and quality of development the city desires, anticipates and will approve.*** Clear statements of principle, generally explained graphically, are presented for the complete street-space.

The *El Camino Real Design Guidelines* recognize the corridor as a series of places with distinct character. It does a thorough job of providing guidance on the full range of corridor development and redevelopment issues. Chapters include: *District Vision, Site Planning and Landscape Guidelines, Building Design Guidelines, Signage, Renovations and Façade Improvements*, and *Exclusively Residential Projects*. An instructive appendix provides conceptual schematic design examples for a variety of building project scales, ranging from tiny infill projects to full-block developments.

The *El Camino Real Design Guidelines* are not regulatory, but provide guidance to an existing review process. While they do not act as a *rule-book*, they provide a very useful *play-book* for Corridor development.

The ultimate value of the Design Guidelines is their clarity. No citizen, public official, or developer could reasonably fail to understand the ultimate goal of the master plan – and that is a first condition for the implementation of any community vision.

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Economic Development

The design guidelines were received enthusiastically by the development community and have been consistently implemented for the past 3 years.

Recognizing that the entire two-mile stretch of El Camino Real could not be a continuous pedestrian-oriented corridor, the City's approach involved a node and corridor concept. This method focuses on three pedestrian nodes (mainly at intersections) and two areas that are more auto-oriented. This creates synergy among auto-oriented uses and pedestrian passages.

The development community continues to be strongly supportive because the guidelines promote quality design and corridor image, which in turn have increased property values along El Camino

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Real. Roughly a dozen new redevelopments have occurred along the 4.3-mile stretch since the design guidelines have been implemented.

Transportation

The section of El Camino Real being redesigned and reconstructed is shown following:

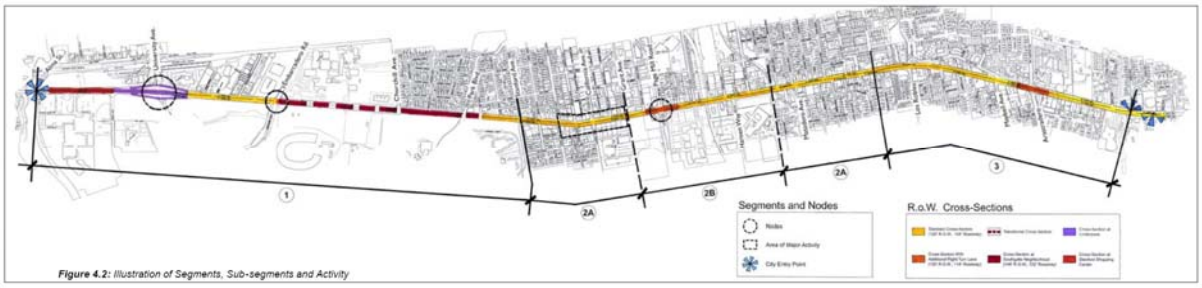

Figure 4.2: Illustration of Segments, Sub-segments and Activity

Current conditions

Vehicle Traffic Characteristics. Traffic volume is 45-55,000 vehicles per day. With the effects of congestion and traffic signal delay, peak-period travel speed is approximately 17 mph, although in between signals, 85th percentile speeds exceed 40 mph, more than 5 miles above posted speed.

Transit Characteristics. Major bus lines run along this section of El Camino Real, at frequencies of 10 minutes during peak periods and 20-60 minutes during off-peak periods. There is a major commuter rail station nearby.

Redesign

Palo Alto applied for and received a grant from the California Department of Transportation (Caltrans) to redesign El Camino Real. $280,000 (including a local match) became available for planning and design work. The consulting team was Community Design + Architecture (urban design), Fehr & Peers Associates (traffic engineering), Urban Advantage (visual simulations), Reid Ewing of University of Maryland (context-sensitive design), and Joe McBride of UC Berkeley (urban forests). About the same time, the then Director of Caltrans, Jeff Morales, began a Context Sensitive Solutions (CSS) program whose aim is to make state highways more compatible with their land use contexts. The redesign of El Camino Real, to be more like a main street, is the kind of project envisioned by CSS, and the department has looked favorably on it.

The main transportation problems with El Camino Real as it currently exists are poor aesthetics, high vehicle speeds, and difficult pedestrian crossings (see set of pictures on next page). Based on the plan prepared by the consulting team, the City of Palo Alto has proposed the reconstruction of El Camino Real to create:

1. An aesthetically attractive corridor that projects a positive image for Palo Alto.

2. A fully multi-modal urban thoroughfare that maintains mobility and improves safety for transit, trucks, and autos, while improving safety and convenience for pedestrians and bicyclists; and

3. A center of community activity rather than a barrier between activities on each side of the street.

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Existing Roadway with Aesthetic, Speeding, and Crossing Problems

The plan for El Camino Real pursues the community's goals by:

1. Planting hundreds of median trees to create a tree-lined street.

2. Reallocating the 120 ft right-of-way by narrowing travel lanes from 12 to 11 ft, allowing parking lanes to substitute for shoulders, widening sidewalks, adding pedestrian refuges in the medians, and adding corner bulb-outs to shorten pedestrian crossing distances; and

3. Dropping from 6 to 4 or 5 travel lanes near intersections with low cross street traffic volumes and high pedestrian crossing volumes.

Median trees: Debate over the role of median trees has been a substantial barrier to full implementation of the El Camino Real plan. Around year 2000 a group called Trees for El Camino Real began to lobby and fund-raise for the installation of median trees. Having raised several hundred thousand dollars, the group only needed Caltrans approval to begin planting trees. About one-third of the median length through Palo Alto is wide enough for trees under current Caltrans clearance policy, which requires a minimum median width of 12 feet. The rest of the median is of substandard width.

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Caltrans is conducting a pilot study of median trees on El Camino Real. Several hundred trees are currently being planted on the northern section next to Stanford, and a second planting in the southern section is now underway. These are sections with the 12 ft medians, but under the pilot, trees are being planted even on the median noses of 8 ft width. Just north of Palo Alto, the city of Menlo Park is using the flexibility of the pilot project to plant trees on medians of only 5 ft width.

Reallocation of ROW: Caltrans has had no objection to narrowing lanes, providing a parking lane in lieu of a shoulder, or adding bulb-outs. Here the main challenge is cost. The entire reconstruction is estimated to cost $32 million. It is unclear when this portion of the project will become feasible.

Narrowing near intersections. The selective narrowing to 4 lanes faces the same financial constraints, and also faces some political obstacles. This section of El Camino Real has 4 major four-way intersections with cross-street traffic of up to 50,000 average daily traffic (ADT). The uniform six-lane section of El Camino Real is scaled to these intersections. El Camino Real also has 17 T-intersections with much lower cross street traffic volumes, on the order of 10k ADT. Two of these have high pedestrian volumes due to school crossings, neighborhood commercial areas, and (in one case) a train station. At these two intersections, pedestrian crossing volumes are so high that vehicle traffic from the side streets clears faster than pedestrian traffic crossing the street, and narrowing El Camino Real to four lanes would actually reduce intersection delay. Traffic simulations showed that as long as the four-lane sections did not extend to the major intersections, overall travel time along the arterial would not be significantly affected. The problem here is that some residents equate any narrowing with increased congestion. To address this, a field test of the 4 or 5 lane segments is included in the plan.

Plan for 6-4 Lane Hybrid Design

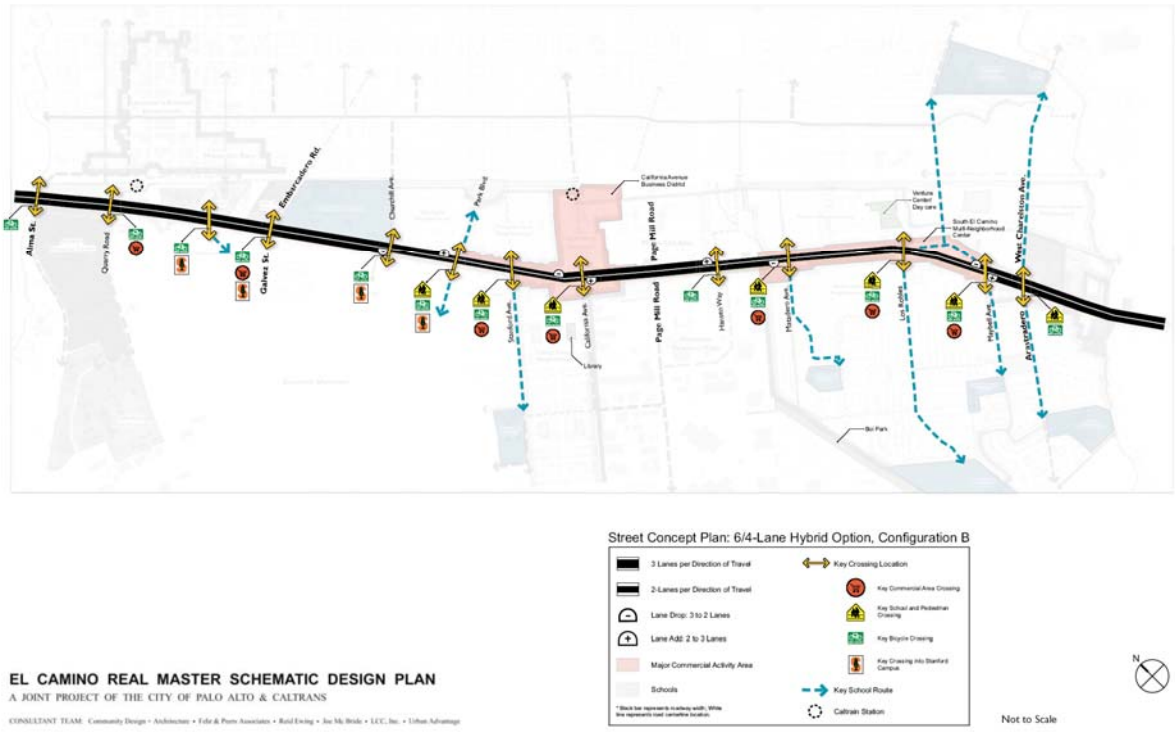

Figure 5.17: *Corridor Concept Plan: 6/4-lane Hybrid Option - Configuration B*

Finally, Stanford University is interested in creating a new bicycle connection through the eastern portion of the campus (the Arboretum) to El Camino Real. This would be connect to the existing bike path along El Camino and be consistent with the City's Draft Bicycle Plan.

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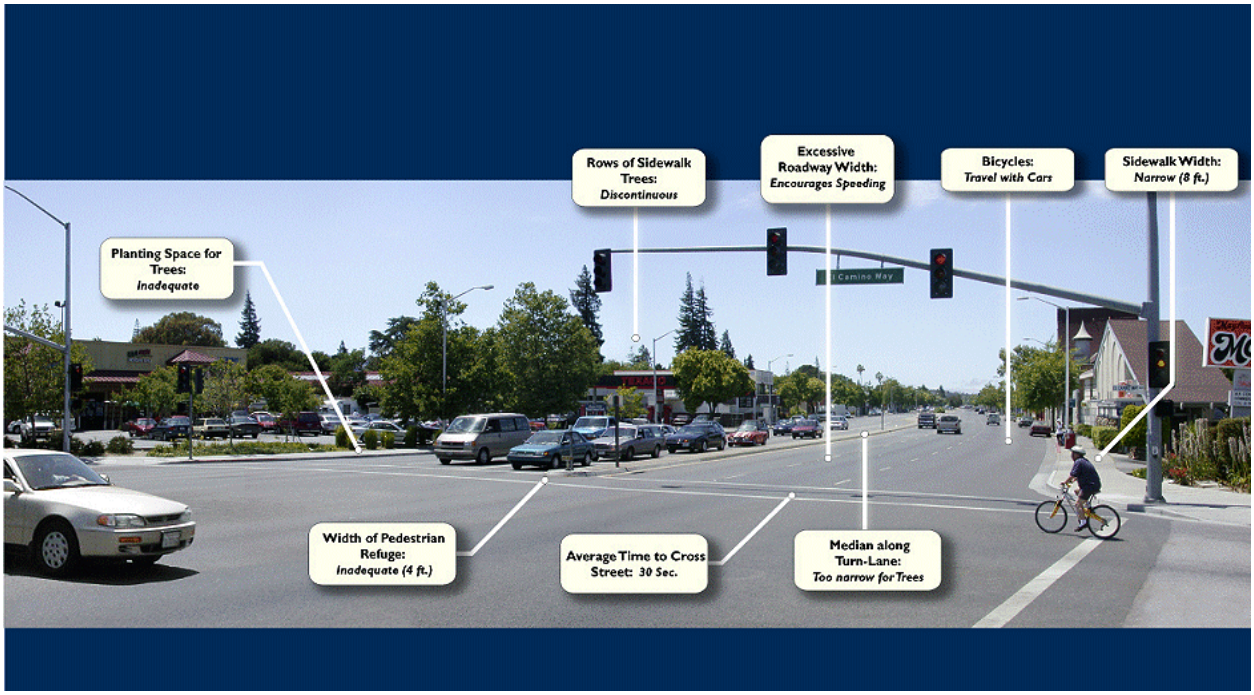
The University has also explored transforming the frontage of El Camino Real from on-street parking to a wider sidewalk with street trees.

Existing conditions and redesign

Existing



Redesign

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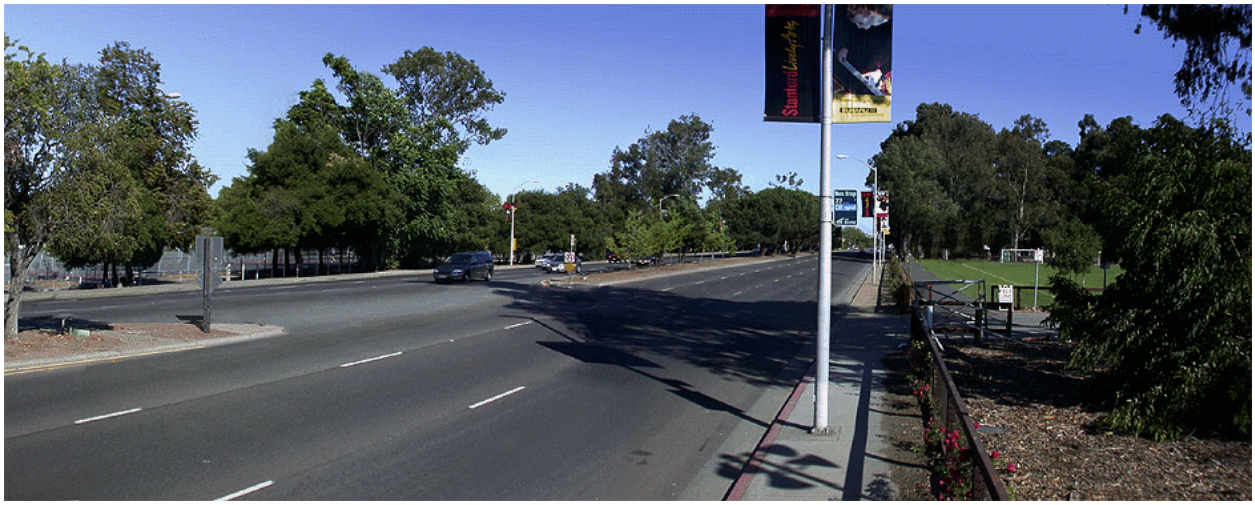
Existing



Redesign

Key tools

- Development guidelines to assure quality development, including the appendix of design solution examples. A great playbook to get developers headed in the right direction.
- Road network and streetscape improvements
- The computer imaging.
- The clear and specific numbers: quantitative information about the street sections and other design details. These give everyone *specifics*.
- Tax increment financing of amenities

Resources

El Camino real home page: http://www.city.palo-alto.ca.us/planning-community/el-index.html

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28th Street

Boulder, Colorado; State Highway Route 36

28th Street
Vital Statistics

Boulder Pop: ~100,000
Average Daily Traffic: 46,500
Through Lanes: 4

Adjoining land uses:
Educational, commercial, residential

Context

28th Street is the main roadway into Boulder from Denver, Colorado. It borders the University of Colorado at Boulder (CU) and serves as a prominent gateway and vital physical link to CU's campus. It exceeds its threshold volume for congested conditions. The 28th Street campus edge needs functional and aesthetic improvement.

Planned Improvements

Developed and designed by the community in 2000, the 28th Street Improvements Project is currently underway. It consists of three sections:

- "Hello Boulder!"—the south section adjacent to CU's Campus (from Baseline Road to Arapaho Avenue);
- "Service City"—the north section (from Pearl Street to Iris Avenue), and;
- "New Town"—the middle section (from Arapahoe Avenue to Pearl Street).

Upon completion in early 2006, 28th Street will be transrformed into a multi-modal corridor with unique transportation, safety and visual enhancements.

Before

After

The new 28th St. will use functional art, water-wise landscaping and improved signage and landmarks to give the corridor a distinct character that animates Boulder's gateway and draws attention to several landmarks, including Boulder Creek, Boulder Valley Regional Center and CU.

Future transit superstop on 28th Street, east side

…and west side

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Improved Transportation

Improvements include creating a multi-modal transportation system to enhance safety and accommodate travel for motorists, bicyclists, transit riders and pedestrians of all ages. See accompanying pictures for example details.

Expanded Travel Choices and Regional Connections

Improvements will also include roadway enhancements, better lighting, new transit superstops, bus services, bike lanes, sidewalks and multi-use paths. This is the first time bicycle and transit facilities will be provided on the south section of 28th Street. In addition to linking to CU, it will also strengthen multi-modal travel throughout the region, connecting with the Twenty-Ninth Street retail project, the Boulder Transit Village area, local and regional transit routes, bus transit superstops and FasTracks.

Financing

The budget for "Hello Boulder!" was approved in 2000 for $10 million. Slightly more than half comes from state and federal sources, while the rest comes from the City of Boulder's Transportation Fund. Five million dollars of external funds (at minimum) is being invested in Boulder as a result of the project. Investments by CU and other private enterprises are also occurring.

Economic Development and Land Use Coordination

The 28th Street improvements are a strategic approach to public investment, designed to entice private enterprises to locate and do business along the corridor. Results so far are positive.

Twenty Ninth Street Retail Project. This project is Boulder's new open-air retail district, built on the 62-acre site of the former Crossroads Mall. It is a lifestyle retail district consisting of three distinct neighborhoods that create a one-stop shop destination. The district will consist of approximately 850,000 total square feet of retail

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space, 3,664 parking spaces and more than one-quarter will be designated to open space. Anchors include Foley's (150,000 sf - similar to Macy's), Home Depot, Century Theater (16-plex cinema) and Wild Oats (35,000 sf - similar to Whole Foods Market). The project will also include 150,000 square feet of class "A" office space and the first phase is scheduled to be completed by Fall 2006.

The University of Colorado has also developed a landscape plan, which includes new outdoor basketball courts with sunken bleacher seating, flower gardens and a path leading to the city's new multi-use path. As a beneficiary of the 28th Street Improvement Project, the University provided the City of Boulder with a sidewalk easement.

Key tools

- Road and streetscape improvements
- Tax increment financing
- Public development of a framework plan for mall redevelopment that provided clear guidance about community desires.

Resources

http://www.ci.boulder.co.us/publicworks/depts/transportation/projects/28th.html
http://www.ci.boulder.co.us/buildingservices/crossroads/index.htm

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Stanford University

Palo Alto, California

Stanford University Vital Statistics

Main Academic Campus Area: 1,800 acres
Faculty: 1,775
Students: 15,000
4 million square feet of growth with no new auto trips.

Context

Stanford University is located on 8,180 total acres in six different governmental jurisdictions roughly halfway between San Francisco and San Jose, California. Much of the campus and the land bordering it on one side is open space that is highly valued by the community. The City of Palo Alto is located immediately adjacent to, and essentially envelops the campus on the remaining three sides. The main academic campus consists of 1,800 acres of unincorporated Santa Clara County land.

Challenges

During the late 1980s and early 1990's Stanford University planned to construct an additional 2 million square feet of building space but was confronted with a number of obstacles. The community was concerned with the impact of Stanford's growth on traffic while the university was faced with the escalating costs of providing parking structures to replace the surface lots used to construct new buildings.

Relationship with the Community

In an effort to allay community concerns with the traffic generated by continued university development and streamline the approval process required for each new development project, Stanford and Santa Clara County worked together to create the Stanford Community Plan and the Stanford University General Use Permit. Together these documents define a growth plan for Stanford that allows for flexible growth within constraints that respect community goals for open space preservation and minimization of traffic impacts.

The plans focus growth within an academic growth boundary designed to preserve open space and create a compact campus environment more supportive of transit, bicycling, and walking. Housing linkage requirements included in the plans require that on-campus housing development keep pace with the development of classroom and office space. Maximizing the number of students and faculty living on campus helps minimize the number of auto trips to campus.

One of the most significant constraints on development imposed by the plans is the requirement that new development create "no net new commute trips". After establishing a baseline measurement of peak hour traffic conditions at key locations, if new development results in a net increase in traffic Stanford is required to fund the street improvements required for mitigation.

Stanford Transportation Programs

Due to the restrictions imposed by the community plan and the escalating cost of constructing parking structures, Stanford administrators came to the conclusion that it would be cheaper to provide high quality alternatives to driving and actually pay commuters to not drive rather than invest in roadway expansion and parking structures. A comprehensive transportation demand management plan was developed that provides the following incentives to reduce auto usage:

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- A free, comprehensive campus shuttle system open to the public which provides both circulation within campus and connections to other major transit service
- Free employee and student transit passes
- Clean Air Cash –program pays employees up to $204 per year for not driving to campus
- On-campus car rental
- Vanpool/carpool preferred parking, subsidies, and ride matching services
- Investment in improved bicycle facilities
- Transportation services website and customer service center
- On-campus housing for 94% of undergraduate students, 52% of graduate students and 30% of faculty

Results

During the 1990s Stanford was able to add 2 million square feet of new building space, a 20 percent increase, without increasing peak period auto trips to campus. As part of the TDM program, $4 million was invested in improving bicycle facilities, which resulted in 900 people shifting from cars to bikes. Providing these same commuters with structured parking would have cost $18 million. Stanford's transportation demand management program has helped minimize growth in auto trips, maintain a positive relationship with the surrounding community and achieve more cost efficient development.

The success of the 1989 General Use Permit agreement allowed for its renewal in 2000 under essentially the same transportation terms. The 2000 permit grants an additional 2 million square feet of academic space provided peak period, peak direction traffic stays below 1989 levels, but it gives Stanford credit for helping to reduce trips to off-campus destinations. In this way, Stanford can help reduce trips to office buildings in the adjacent Research Park in order to increase trips on the main campus.

Key Tools

- By focusing on university traffic generation rather than university building development, surrounding jurisdictions were able to support additional growth, speeding the university's development process and saving development costs.

- University found that it was cheaper to pay commuters not to drive, and to invest in TDM, than it was to build more parking structures.

- Investment in on-campus housing produced huge benefits for the university, it being the largest component of the traffic reduction strategy which at the same time being cited as one of the most important factors in attracting quality faculty, staff and students.

Resources

Stanford Community Plan and General Use Permit Website: http://www.sccgov.org/portal/site/planning/menuitem.311b6004a2316af82b9900dd5a30a429?path=%2Fv7%2FPlanning%2C%20Office%20of%20%28DEP%29%2FPlans%20%26%20Programs%2FStanford%20University%20Information%2FPlans%20Reports%20and%20Documents&contentId=4b101e99c9d74010VgnVCM10000048dc4a92____

Stanford Transportation Website: http://transportation.stanford.edu/index.shtml

Stanford Fact Page: http://www.stanford.edu/home/stanford/facts/lands.html

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University of Washington

Seattle, Washington

University of Washington Vital Statistics

Campus Size: 640 acres

Employees: 23,000

Students: 36,000

Context

The University of Washington occupies a 640 acre campus within the City of Seattle, enrolling over 36,000 students and employing over 23,000 faculty and staff.

Relationship with the Community

In 1983 the University of Washington agreed to create a development and transportation master plan to address the City of Seattle's concerns that campus expansion would increase regional traffic and parking demand in surrounding neighborhoods. As part of this plan the university agreed to limit campus parking to the existing supply at that time -- 12,300 spaces. Also, the university agreed to performance standards limiting the amount of auto traffic traveling to campus.

Challenges

In 1989, the university planned a major expansion that was expected to require 10,000 additional parking spaces per day. Construction of four costly parking structures would be needed to accommodate this additional parking demand. Needing to adhere to the parking limit agreement with the City of Seattle and looking for less costly methods of accommodating the additional parking demand, the University of Washington launched an aggressive transportation demand management program.

The U-PASS and Increased Parking Charges

Working with the King County Metro transit agency, student, staff, and faculty crafted a transportation demand management plan featuring both incentives for using alternative modes of transport and disincentives for traveling to campus by private auto. Most incentives are obtained via use of the U-PASS, a sticker attached to university identification cards. The most significant benefits provided by the U-PASS include:

- Unlimited access to bus transit. (The campus is well served by buses, with over 30 routes traveling through campus.)
- Free parking for U-PASS holders who carpool to campus.
- Discounted guaranteed rides home and carsharing rentals

All students are automatically enrolled in the program and charged $41 per quarter while faculty can choose to participate in the program for $57 per quarter. Sales of the U-PASS cover only 46 percent of program costs. 41 percent of funding is obtained from parking charges and the remaining 13 percent from university subsidies.

In conjunction with the implementation of the U-PASS the cost of on-campus parking was increased by 50 percent to further discourage travel to campus by auto and help fund the U-PASS program. Offering substantial benefits such as unlimited free transit usage, helped reduce opposition to the parking fee increases.

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Results

Many regard the U-PASS program as one of the most successful university transportation demand management programs in the United States. It has provided significant benefits to the university and the surrounding community. The community has enjoyed minimal levels of traffic growth, while the university has been able to avoid constructing costly parking structures, which allows for the scarce remaining campus space to be used for the construction of more educational and research facilities.

The U-PASS program has been extremely popular. In 2002, 31,000 students (85 percent of the student body) and 9,800 faculty/staff members (65 percent of faculty) purchased the U-PASS compared with 630 student and 4,400 faculty/staff parking permits sold. Opposition to the substantial parking fee increases has been minimal. 88 percent of students and 91 percent of employees approved of the increases. Not only has the U-PASS program been popular, it has also successfully reduced auto commuting to campus. From 1989 to 2002 the percentage of faculty driving alone decreased from 60 to 43 percent and the percentage of students driving alone decreased from 25 to 16 percent. Even though the campus population grew by more than 8,000 people during this time period traffic volumes did not significantly increase and parking demand and utilization decreased. It is estimated that the university has avoided as much as $100 million dollars in construction costs for parking structures, money that has been put to use constructing educational and research facilities.

The success and acceptability of the University of Washington transportation demand management program has been attributed to pairing high quality, flexible transportation alternatives with substantial parking price increases.

Key Tools

- By focusing on university traffic generation rather than university building development, City and surrounding neighborhoods were able to support additional growth, speeding the university's development process and saving development costs.

- University found that the U-PASS program was cost effective compared to building expensive parking structures.

- Partnership among the university, city and transit agency produced significant benefits for all three.

Resources for Additional Information

The U-PASS website: http://www.washington.edu/upass/index.php

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APPENDIX D: ONLINE INFORMATIONAL RESOURCES

For more information about smart growth tools and techniques, please visit the following websites:

EPA's Smart Growth Program	http://www.epa.gov/smartgrowth/
Smart Growth Network online	http://smartgrowth.org/
Smart Growth America	http://smartgrowthamerica.org/
Smart Growth Leadership Institute	http://www.sgli.org/
Maryland Department of Planning	http://www.mdp.state.md.us/smartintro.htm
National Center for Smart Growth Research and Education	http://www.smartgrowth.umd.edu/
1000 Friends of Maryland	http://www.friendsofmd.org/

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