

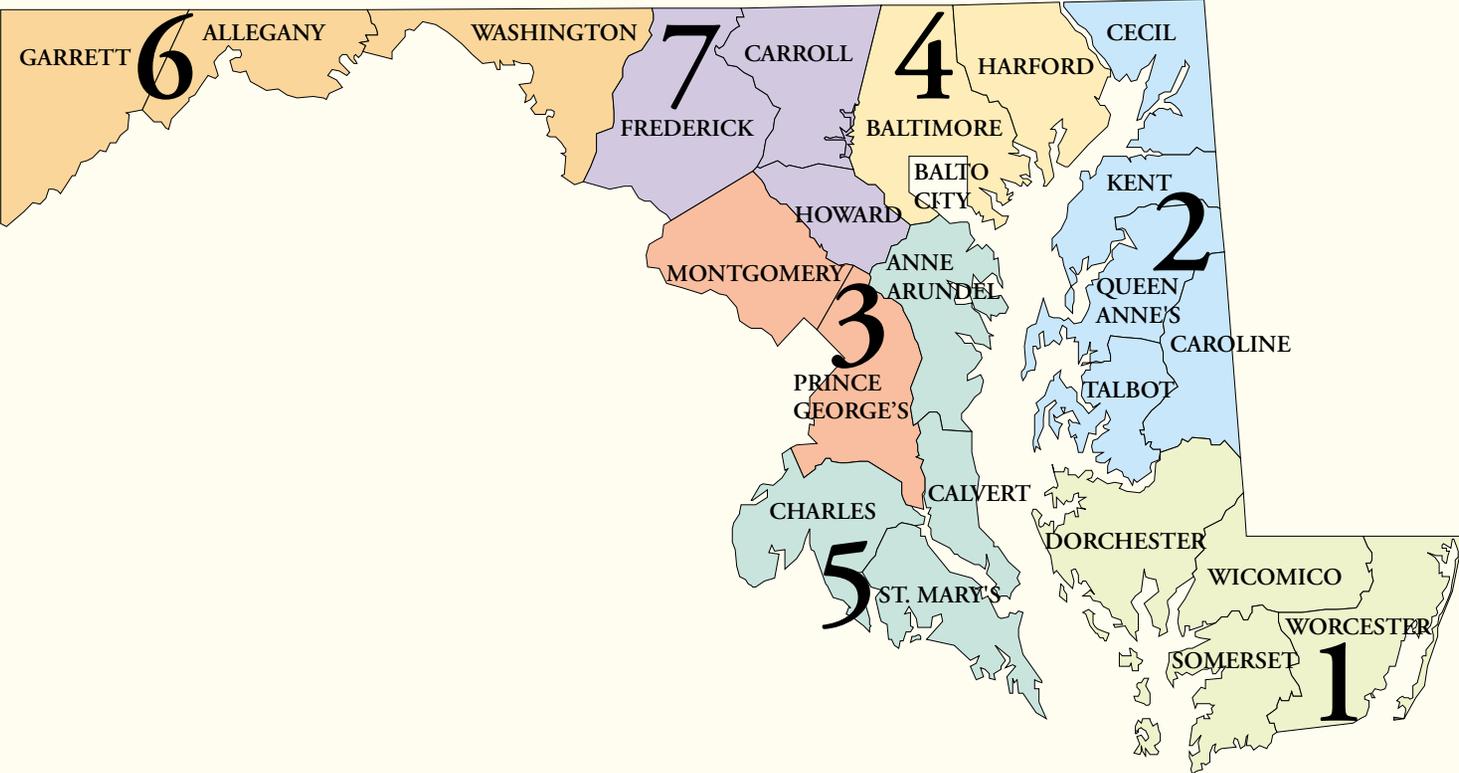
WHEN MAIN STREET IS A STATE HIGHWAY



BLENDING FUNCTION, BEAUTY AND IDENTITY

A HANDBOOK FOR COMMUNITIES AND DESIGNERS

MARYLAND STATE HIGHWAY ADMINISTRATION DISTRICT MAP



This 2003 edition of *When Main Street Is A State Highway* has a long lineage. It was first presented in 1988 by the Maryland Main Street Development Association as a series of general recommendations on ways to solve specific conflicts between downtown economic development needs and the demands of traffic safety and mobility. Each situation was examined from the Main Street and transportation perspectives, with successful examples of cooperation cited as lessons.

What was missing from the analysis (and it was missing because it did not exist) was a process of project development that called for participation by all the parties in a combined effort to achieve a result satisfactory for all. The 2001 edition of *When Main Street Is A State Highway* sought to correct that situation by borrowing experiences from the Maryland Department of Transportation's State Highway Administration's (SHA) *Thinking Beyond The Pavement* initiative, and its new approach to developing roadway projects in concert with communities.

The 2001 edition provided a comprehensive outline for a groundbreaking project development process. It was the result of open experimentation, serious commitment by several communities and SHA, and a willingness on the part of vested interests inside and outside of government to hold out beliefs for examination and possible criticism. And it worked.

The *Main Street* process has been used in more than 120 roadway projects. It has garnered national awards from the American Association of State Transportation Officials and from the National Partnership for Highway Quality, not only for the usefulness of the final product but also for the team approach used in its development.

This updated version of the *Main Street* handbook is not a step-by-step guide through the maze of human and technical considerations that emerge in any community road project; it does present a means of organizing, developing,

and working cooperatively with SHA on highway improvements that reflect community goals. It is not the final act, but the next step. The collected experiences gained by working in new project environments will continue to develop new ideas, and produce better solutions.

It is a great time to be in the "road business!" Maryland's communities, engineers, and designers have never had a better opportunity to develop excellent roadway improvement projects.

THE COMMUNITY AND GROWTH

The integration of land use, transportation, and economic development planning is an important goal of Maryland's citizens. The array of budgetary and planning tools developed over the years to carry this out has become more than a simple collection of laws; they embody the fundamental understanding that community identity and integrity is not built with new structures alone. Rather identity and integrity can be discovered in the strengths of the "structures" we have. Existing neighborhoods, greenbelts, brownfields, and future growth areas have all been acknowledged as producers of identity and quality, not as disposable abstractions. In other words, we are beginning to understand that listening to the voices of what we have produced may be the most prudent way to the future.

The Maryland Department of Transportation (MDOT) and its roadway design, construction, and maintenance arm, the State Highway Administration, is a key partner in implementing this understanding. MDOT/SHA has developed a strategy called *Thinking Beyond the Pavement* to align transportation planning with land use, transportation needs, and economic development decisions. Its aim is to make roadway projects an important part of local and regional efforts to make communities functional and vibrant places to work and live, expand upon of the road and transit systems that already exist, and offer...

OVERALL APPROACH



1

NEW OPPORTUNITIES IN TRANSPORTATION & LAND USE

THE COMMUNITY AND GROWTH

Maryland's growth management program is having a dramatic impact on land use decisions across the state. This initiative is not simply a collection of anti-sprawl measures, it embodies the fundamental understanding that identity is not built with new structures, it is discovered in the strengths of the "structures" we have. Existing neighborhoods, greenbelts, brownfields, growth areas, are all acknowledged as producers of identity and quality, not as disposable abstractions. In other words, we are beginning to understand that listening to the voices of what we have produced may be the most sustainable way to the future.

As part of this overall initiative, the State Highway Administration uses a strategy called *Thinking Beyond the Pavement* which aligns transportation planning with land use decisions. It supports growth management by placing emphasis on the people, neighborhoods, and businesses that must be served by the transportation network and on the environmentally sensitive areas of the state that must be protected. The aim is to make our existing communities functional and vibrant places to work and live, take advantage of the road and transit systems that already exist, and offer our citizens a balanced transportation system, one that fits with communities, is oriented to all users, and where walking, bicycling, and transit are realistic options.

We have already had some successes and we are learning



Bond Street, Bel Air

more and more as we move forward. On Bond Street in Bel Air in Harford County, we were able to create a pedestrian-friendly environment and integrate the many businesses there into Harford County's main civic and commercial center.

On MD 144 in Catonsville we improved the roadway, added sidewalks, and other streetscape enhancements which stimulated local businesses to improve their properties and magnify the impact of roadway-based improvements. The project taught that the business community must be an integral part of the design process.



Catonsville

Thinking Beyond the Pavement principles were also brought to bear in Mt. Rainier, a transit-oriented community near Washington, D.C. Residents felt the state road divided their community. Intensive community involvement produced a fundamental change in the way pedestrians, cars, and transit were to be handled and led to a striking change in the appearance of the roadway and its surroundings. The project showed that communities are often less afraid of change than the designers.

In all of these projects, the key to success was moving away from a standards-driven process to a flexible, community-friendly approach that seeks to balance the performance and safety features of the

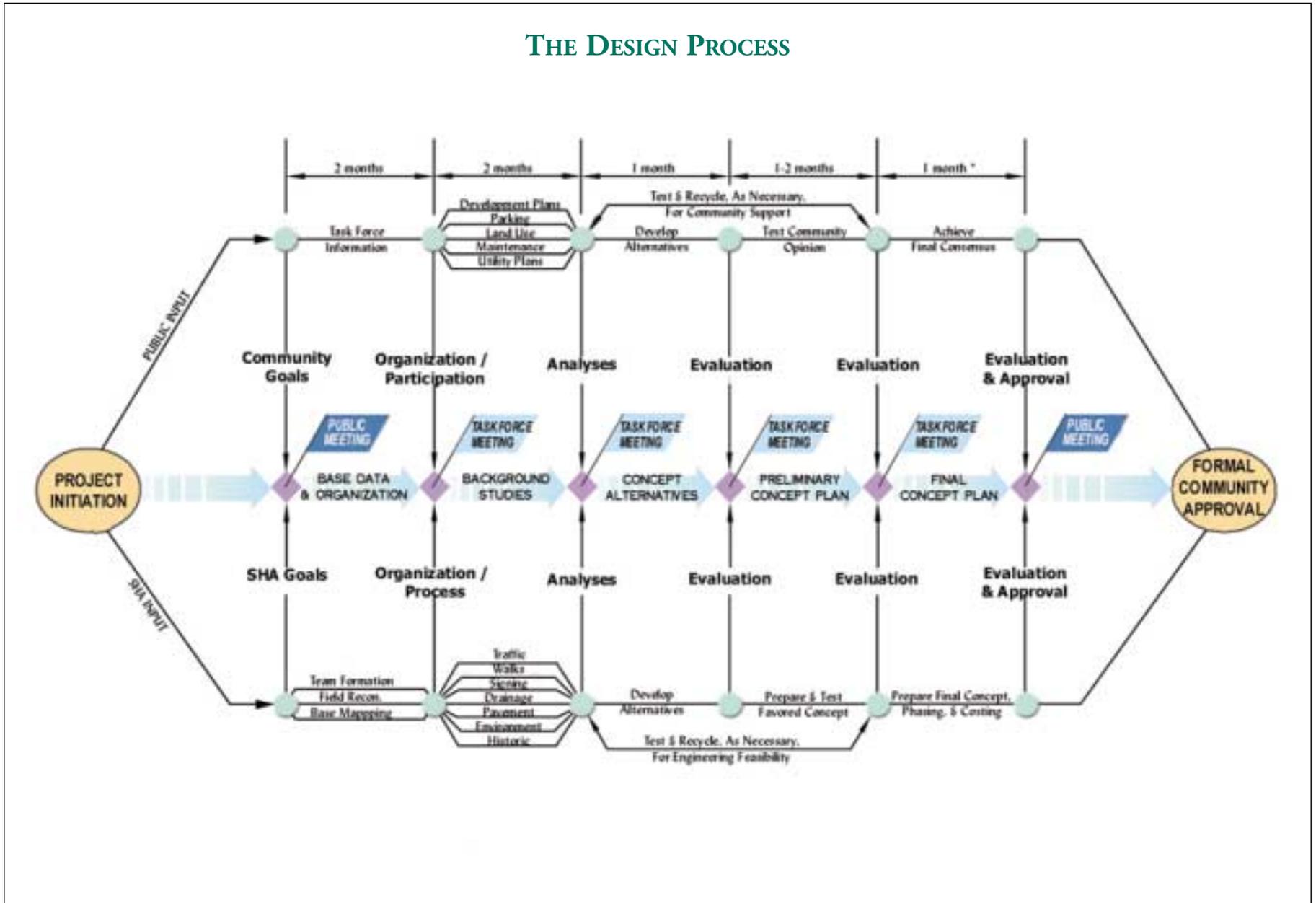
"The Maryland Department of Transportation is weaving growth management principles into all its projects to extend transportation beyond simply getting from Point A to Point B faster. We are ensuring it will contribute to a better quality of life for all of us."

STAFF
Maryland Department of
Transportation



Sketch view of Rhode Island Avenue from Mt. Rainier City Hall

THE DESIGN PROCESS



highway with the shape of the built environment. In the past, a few projects met these criteria, but the new goal is to use this approach in all Main Street-type projects.

THE APPROACH

Today's sponsors of transportation improvements consider an extraordinary array of factors. These include not only functionality, safety, and cost but the many concerns of a wide collection of stakeholders, and an extensive range of environmental, cultural, and community issues.

This design process succeeds if it has credibility with highway engineers, planners, landscape architects, environmental and historic preservation staff, and the community. It must ring true with all. This means that those primarily concerned with engineering factors and functionality appreciate the benefits of a broader design context. It means that designers willingly and openly seek the flexibility necessary to achieve a balanced outcome that respects the imperatives of both technical functionality and context sensitivity. It also means that planners, landscape architects, environmental staff, and the community have a heightened awareness of the legitimate concerns and constraints with which design engineers must deal.

It must be noted that a dynamic and interactive design process does not always unfold in a straight and orderly fashion that neatly converges on solutions. The process is more likely to be iterative, and subject to shifts and refinements as it moves toward a conclusion. The need for patience and the willingness to communicate openly and test new ideas that may or may not work are part of an open process that brings together a broad group of stakeholders with different backgrounds and potentially divergent objectives. Following is SHA's process to achieve these goals.

1. INITIAL CONTACT MEETING

Action

Local officials, District representatives, and SHA managers meet to outline the needs and suitability of a project for action by SHA.

Responsibilities

SHA – Understanding the basic issues that brought the potential project forward.

Community – Understanding local needs and the local ability to contribute to the project.

Products

- Go or No-Go decision.
- Written understanding of initial Project elements and Project scope.

SITE RECONNAISSANCE

Action

Field Walk and photography by Project Team and community representatives.

Responsibilities

SHA – Assignment of Project Manager/ Engineer and formation of Project Team. A Team Meeting should be held before the Field Walk for orientation and immediately after to share information (graphic and otherwise).

Community – Brief the Team Members on the perceived needs and participate in the Field Walk. Provide available studies and plans.

Products

- Field notes of Team Members.
- Summary of field notes by Project Manager/Engineer.



Project Initiation meeting in New Windsor.

Task Force Makeup



Key Participants

- SHA
- Local Leadership

BASE MAPPING

Action

Preparation of topographical survey or aerial photography and other required basic information.

Responsibilities

SHA – Selected and ordered by Project Manager/Engineer.

Products

- Base maps
- Historical and archeological inventory
- Accident data
- Recurrent maintenance issues (e.g. drainage problems)
- Community asset inventory (e.g. schools, libraries, parks, activity centers)



2. PUBLIC & TASK FORCE MEETING - DEFINITION OF NEEDS/ISSUES

Action

Public Meeting followed by a Task Force meeting hosted by the community where the project is introduced to the general public, the process explained, additional issues are brought forward, and examples of similarly scaled work by SHA are explained.

Responsibilities

SHA – Arrange meeting and prepare agenda.
Community – Provide meeting place, publicity, and act as meeting host. Provide Task Force or Steering Committee members.

Products

- Limits of Project
- Project Elements and Objectives (Design Program)
- Detailed Project Schedule

BACKGROUND STUDIES

Action

- A. Background studies of all identified Project elements (e.g. circulation, parking, pedestrian paths, signage, land use, roadway and curb condition, drainage, natural environment, historical and cultural assets, major infrastructure, signalization, safety, utilities, etc.)
- B. Additional field investigations as necessary.

Responsibilities

SHA – Project Manager/Engineer and Team landscape architect and planner responsible for coordination of material and final presentation.
Community – Provision of additional material and information.

Products

- Site Inventory and Analysis Map showing opportunities and constraints within the Project along with supporting written material.



3. TASK FORCE MEETING

Action

Conduct Task Force meeting on the findings of the background studies and the Project Elements and Objectives.

Responsibilities

SHA – Arrange meeting and prepare agenda. Project Manager/Engineer and Team landscape architect and planner responsible for coordination of material and final presentation.
Community – Review and approval of Project Elements and Objectives.

Products

- Refined Project Elements and Objectives and consensus approval by Task Force

SCHEMATIC PLAN DEVELOPMENT

Action

Conceptual solutions and alternatives to meet Project Objectives. Identification of potential Project spin-offs (i.e. participation by other governmental agencies or private interests).

Responsibilities

SHA – Project Manager/Engineer responsible for coordination of material and final presentation.

Products

- Schematic Plan with alternatives
- Illustrative roadway cross-sections

4. TASK FORCE MEETING

Action

Conduct Task Force meeting on community response to the Schematic Plan.

Responsibilities

SHA – Arrange meeting and prepare agenda.
Community – Review and approval to proceed to Concept Plan. Development of strategy to pursue Project spin-offs, if any.

Products

- Refined Schematic Plan
- Consensus approval to proceed to Concept Plan

CONCEPT PLAN GENERATION

Action

- Prepare illustrative bases for all areas of proposed construction (e.g. roadway, pavement types, utility relocations, sidewalks, drainage, bridges, etc.)
- Prepare illustrative bases for all operational improvements (e.g. traffic control, lane configurations, parking, signage, street lighting, signalization, crosswalks, curb cuts, etc.)
- Prepare illustrative bases for all streetscape elements (e.g. landscaping, screening, signs, transit stops, pedestrian lighting, historical and cultural assets, etc.)

Responsibilities

SHA – Project Manager/Engineer responsible for coordination of material and final presentation

Products

- Preliminary Concept Plan suitable for engineering follow-up and understanding by citizens

5. TASK FORCE MEETING

Action

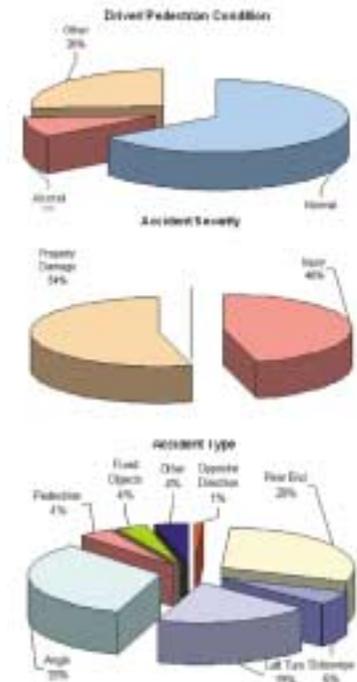
Conduct Task Force meeting on community response to the Preliminary Concept Plan.

Responsibilities

SHA – Arrange meeting and prepare agenda.
Community – Identification of any local obstacles to the achievement of the Concept and strategies to deal with them. Review and approval to proceed to Final Concept Plan.

Products

- Refined Preliminary Concept Plan
- Consensus approval to proceed to Final Concept Plan



Types and severity of accidents prepared for Background Studies.

NEW OPPORTUNITIES

FINAL CONCEPT PLAN, PRELIMINARY PHASING, PRELIMINARY COSTS

Action

Prepare Final Concept Plan, proposed phasing of improvements, and cost estimates.

Responsibilities

SHA – Prepare detailed drawings of proposed improvements, prepare suggested phasing of construction if necessary, and provide cost estimates of all project elements

Products

- Final Concept Plan



6. PUBLIC MEETING OR TASK FORCE MEETING

Action

Conduct general Public Meeting or Task Force meeting on community response to the Final Concept Plan.

Responsibilities

SHA – Arrange meeting and prepare agenda.

Community – Provide meeting place, publicity, and act as meeting host. Assist in presentation of Plan and achievement of local political endorsement.

Products

- Community endorsement of the Final Concept Plan. This will typically require a vote of the local elected officials or written support from elected chief executive officer.

Oxford Alternatives

Task Force presented two options for public comment before making a final recommendation to the Town Council.



PROJECT START



2

HOW DOES A PROJECT BEGIN?

THE SYMPTOMS, THE PLAYERS, & THE PROGRAMS

UNDERSTANDING COMMUNITY NEEDS

Community needs vary widely but typical expressions of local concerns include the following:

- Pavement requires major repair
- Drainage is not functioning
- Traffic volumes are high and cause congestion
- Traffic speeds are too high for the setting
- Accidents are a concern
- Street lacks character and needs improvement in the form of landscaping, street furniture, reduction of overhead utilities, etc.
- Parking is inadequate
- Too few or too many poles and signs
- Visibility or width causes difficulty crossing the street
- Incomplete or inadequate sidewalk network
- Difficult to bicycle on the street
- Lack of lighting raises nighttime safety concerns
- Transit stops are inadequate
- Truck traffic is excessive



Missing sidewalk near Falls Road Light Rail

Some of these conditions are created by “conventional” street design, others have deeper roots. Currently, some roadway design says “It’s OK to go fast” and a design for higher speeds allows drivers to feel comfortable with their “ownership” of the road but causes other users to feel far less comfortable. The highest expression of this approach is the interstate highway. It uses access controls, clear zones, large curve radii, acceleration and deceleration lanes, large message signs, and other design features to isolate the road, ease driver decision-making, and make it safe and forgiving for the highest speeds. Interstates are “safety and mobility” projects and are well-designed for these two goals.

Local streets, on the other hand, require a completely different set of design considerations: access is paramount, there is no room for clear zones, curve radii are small, acceleration and deceleration lanes are less needed, and signage is scaled down. But, above all, the local street cannot be isolated for the safety of the high speed driver; it must be shared with pedestrians, bicycles, parked cars, delivery trucks, advertising signs, drainage structures, and every other use made of our Main Streets. This basic condition shapes the visual and physical character of every local road and nearly all concerns stem from it.

Some deeply rooted community concerns stem from roads and traffic but are more often expressions of traditional conflicts in American society. A very basic one is the issue of life safety and mobility vs livability. For example, the director of a nursing home wants to place furniture in a hallway so that the residents can sit and talk, but the fire safety director doesn’t want any furniture in the hall because it’s a fire hazard. This dilemma springs from differing goals. In Main Street projects, it often takes the form of

“Walk through town and imagine your grandmother lives there. Get the feel of the town and learn to love it. Pretend that this is your town and understand that it is fragile.”

RESIDENT
Sharpsburg



Poor property access, no sidewalk or bike lane.

HOW DOES A PROJECT BEGIN?

✓ LESSON

Pay Attention to What People Are Saying, Be an Active Listener

Try to understand the overall environment - political, natural, economic, and social. Look for and listen to all the ways the project connects to the past and future of the people and place that you are working. As the project progresses, the stakeholders will change, conflicts will inevitably arise, and commitment from the elected officials or neighborhood groups may prove elusive. The key is to listen, question, evaluate, and respond – the answers are not in any handbook yet written. Your work will have an impact on the community that will last for generations – treat it accordingly.

Good listening helps to reveal the “secrets of the street” like intermittent drainage problems, archeological resources below ground, and local folklore that can point to important resources and themes to preserve and build upon.

one group desiring narrow streets and large sidewalks while the fire department insists upon wide streets for mobility and easy access to all structures.

Another is the issue of self-expression vs community values. The business community’s desire for parking at the front door, easy access by private automobile, and control of its “turf” or business environment often clashes with the larger community’s desire for alternate modes of transportation, less asphalt, and more opportunities for personal communication and beauty. One form the discussion takes on Main Street is delivery trucks. Should deliveries be allowed at any time for the convenience of the shipper and the store owner but to the detriment of traffic flow? Or should delivery hours or locations be restricted to the inconvenience of businesses but the benefit of traffic? Whose values should prevail?

Still another basic issue is the notion of current desires vs long-term needs. Should the crosswalk be a painted white stripe or stamped concrete? Should the no parking area be designated by a sign or some other technique? Are street trees worth the possible later costs of repairing root damage to sidewalks and sewer lines? This question is the age-old one of balancing the function of the improvement with the form of the improvement.

The last common conflict is tradition vs change. This is the familiar debate about the virtues of the countryside vs the values of the city. It takes many forms along Main Street and is reflected in arguments over the “city” solution of a traffic signal when the “old” four-way stop has been working well for fifty years. The same may be said for the “new” ideas of pedestrian nodes or bumpouts, median planters, or narrowed lanes.

There are no technical answers to any of these conflicts. The only avenue to their resolution is building awareness and better perceptions among those trying to address them. The most important questions that arise are not matters of

expertise. The challenge is to establish values and priorities and to decide which approaches are legitimate and which are not; in other words, to define the framework and terms of reference within which experts should work. This is a problem for the community, not for the experts themselves. To solve the problem, community members must achieve a better knowledge of those things which form the community environment and how those things are interconnected. This is achieved by going out into the community and talking about what is possible. The key approach is “Our community would function so much better if . . .”

This is an area where the communities can and should instruct SHA about how to gain an in-depth understanding of how a community works and what it values. In the MD 235 project in St. Mary’s County, project funding, priorities, and philosophy changed several times. The early improvements selected were because of safety and budget. The first proposals were “bare bones” and did not meet the rapidly growing capacity demands of the Patuxent River Naval Air Station expansion or the community’s desire for a suitable “Main Street.” Time and effort were lost until a focus group was established and a dialogue began to create an understanding of the community and its overall vision.

MARYLAND STATE HIGHWAY ADMINISTRATION CAPABILITIES

If these are some of the issues that typically arise, what is the capacity of the Maryland State Highway Administration (SHA) to respond? In other words, what is it set up to do?

The Maryland Department of Transportation and its modal administrations are committed partners in growth management. In particular, SHA is moving forward with many programs that support it. Phone numbers are provided on the inside back cover.

Community Transportation and Urban Reconstruction Programs – These efforts put SHA engineers and designers into older communities for economic revitalization, to solve traffic problems, and enhance the existing transportation network. The goal is to make communities more livable.

Community Transportation projects give priority to roadway improvements on state highways located in State Designated Neighborhoods within Priority Funding Areas (sometimes referred to as designated neighborhoods, neighborhood revitalization areas, or designated revitalization areas) where the improvement will promote economic revitalization and neighborhood conservation and where these improvements will contribute to other revitalization activities.

The Urban Reconstruction Program funds the same types of projects, but can be applied to all urban state highways.

Sidewalk Retrofit Program – Offers funding for construction of new sidewalks and reconstruction of existing sidewalks along state highways in locations identified by local jurisdictions. The state can pay for 100 percent or half, depending on where the road is situated. The local jurisdiction is required to maintain the sidewalks.

Retrofit Bicycle Program – Offers funding for on-road spot improvements along state highways to provide increased accessibility for on-road cyclists. Improvements can be identified by the bicycling community, local jurisdictions, or from within SHA.

National Recreational Trails Program – Provides funding for all kinds of recreational trails including pedestrian, bicycling, in-line skating, equestrian, cross-country skiing, and motorized trail projects.

Partnership Planting Program – Partners local governments, volunteers, and SHA to plant landscaping along the

state highway rights-of-way. The local partners are required to maintain the plantings.

Ridesharing Program – Encourages transit and ridesharing through the funding and construction of park and ride and carpool lots. Local jurisdictions can help by identifying needs and lot locations.

Access Management Program – Certain highway corridors (for example US 301, US 50, US 113, MD 2/4, MD 32 and MD 404) are eligible for funding to develop access management plans to identify long-term access opportunities, including access locations, median breaks, and service roads. These plans can be used as guides for state and local agencies to address access requests from development/redevelopment properties. The purpose is to coordinate land-use and access to highways with economic growth and rational development while maintaining safety and mobility.

Sound Barrier Program – Provides relief to communities that predate our highway system, improving the quality of life for many “neighbors” of the highway. Sound barriers must meet certain eligibility criteria.

Scenic Byways Program – Identifies scenic and historically significant routes for tourism development and provides funding for corridor management plans. The intent is to increase tourism, stimulate local economies, and protect distinctive assets along byways.

Transportation Enhancement Program – Allows SHA to participate in non-traditional transportation projects such as bike paths, beautification, museums, and historic preservation of transportation structures. Projects can be sponsored by a State agency, a local government, a private non-profit agency, a community group, or an individual with local government as a co-sponsor. Local sponsors must provide 50 percent matching funds.

Transportation Enhancement Program Projects



Enhancement funded Hagerstown Plaza reconstruction (top) and Oakland B&O Station restoration (bottom).

HOW DOES A PROJECT BEGIN?

Access 2000-



Before (top) and after (bottom) photos of Landover Metrorail Station sidewalk access improvements.

Maryland Transit Administration Transit and Commute Smart Programs – Provides financial incentives to spur desired private investment in the vicinity of transit stations or services by working directly with potential developers, employers and local jurisdiction. Promotes increases in transit service and ridership.

Access 2000 Pedestrian Improvement Programs – Offers funding for access improvements for pedestrians and bicycles to MARC, Metro, and Light Rail stations.

CHART (Coordinated Highways Action Response Team) – Uses closed circuit television cameras, sensors, and weather towers to gather and disseminate traffic information and provide a quick response to incidents. CHART helps to reduce incident-caused traffic congestion and provides real-time traffic information to travellers.

THE DISTRICTS AND THEIR PROGRAMS

SHA has seven District Offices around the state responsible for managing highway capital programs designed to preserve the existing highway system. Projects to improve drainage, provide safety and spot improvements such as the placement of a guard rail or the addition of a right turn lane, rehabilitate existing pavement, improve the level of service at busy intersections, and add park-and-ride lots for commuters operate out of the District Office.

The Urban Reconstruction Program and the Community Transportation projects may also operate out of a District Office. These are called “Streetscape/Urban Reconstruction” projects. The Community Transportation projects provide funding for roadway improvements on state highways located in designated revitalization areas where economic improvement and transit accessibility are key issues. Urban Reconstruction projects are similar, but can be applied to all urban state highways and are limited

to improvements “between the curbs” where roadway conditions and maintenance issues are paramount.

The District Office identifies and sponsors all of the above projects and seeks their inclusion in the State’s Consolidated Transportation Program. To do this, they must be very familiar with local needs and state priorities. The proactive nature of District community outreach programs is a good example.

District staff visits its towns and neighborhoods, speaks with local officials about its role and capabilities, and examines the state road network for maintenance, safety, drainage, sidewalk, and streetscape issues and opportunities. Laying this groundwork leads to a familiarity with the responsibilities of the District, to the exchange of solid information about needs and possibilities, and to a more careful understanding of the multiple purposes of most highway projects. In other words, early public involvement does not complicate the work of the Districts – rather it allows better coordination, increased good will, and better projects.

All of these programs and efforts require sound planning and design to ensure that the needs of the affected community and the needs of transportation network are blended successfully. That is the purpose of the remainder of this Handbook.

“OPENING” THE PROJECT

FIRST FIELD WALK

A Field Walk is a walking tour through the neighborhood and an effective early step in understanding the needs and concerns of the community and the physical condition of the road. It provides an opportunity for residents, merchants, local government officials, and SHA staff to discuss concerns and ideas informally and observe conditions first-

hand. In this setting, residents and staff are often able to address issues more openly and objectively.

People notice when SHA personnel appear on their neighborhood street in orange safety vests. It is best if the local elected officials and even residents know in advance the purpose of the “visit”. Even better is to organize the walk with the community, publicize it in advance with a schedule and map of the route, and let everyone know that their input is critical to the success of the work.

At the end of the walk, the attendees should gather for an informal discussion of what they saw, what they heard, and what they are going to do next. This session gives local residents a chance to make sure they have been heard and gives the technical staff a sense of community priorities and the background data needed to move the project forward. For example, if the residents are complaining about high traffic volumes, high speeds and numerous accidents, there is a need to examine accident and speed data and perform traffic counts. If drainage problems were observed, information must be gathered to determine their location, condition, and ownership. Or, if opportunities for entrance signage or small park areas are observed, a determination will be made of their availability for use.

Finally, the field walk and the discussion will help the community decide composition of the local side of the Task Force (e.g. local staff, residents, business people, local historians, bicyclists, absentee landlords) and help SHA decide what types of technical skills will be needed from its staff (e.g. hydraulics, highway design, historians, landscape architects, archeologists).

THE PHYSICAL ELEMENTS OF A STREET

Learning the language of those responsible for our roads is particularly important for community members. Every profession has its acronyms and technical phrases and even though we all use the results of their work every day, we don’t necessarily understand the “language” of road design and construction.

Travel Lanes – This is the portion of the road provided for the movement of vehicles. The number of lanes is usually determined by the expected volume of traffic and the level of service to be provided. The width of a travel lane ranges between ten and twelve feet with the lanes becoming wider as the allowed speed or percentage of trucks increases. Generally, ten foot lanes are acceptable on low speed roads, and eleven foot lanes are acceptable in urban areas where right-of-way is tight and development is extensive. Outside travel lanes 16 feet wide must be considered if there is significant existing or proposed bicycle traffic in the area.

Medians – Medians are used to separate opposing traffic flows, allow space for speed changes and left-turning vehicles, minimize headlight glare, offer a refuge for pedestrians at intersections, provide width for future lanes, provide space for landscape planting, and provide space for barriers. A desirable minimum width for raised medians is six feet.

Shoulders – The treatment of shoulders affects safety, capacity, the surrounding environment, and both the initial cost and continuing maintenance costs of the road. These factors must be balanced. For example, the absence of a shoulder can result in a reduction in traffic speed and allow for sidewalks. On the other hand, shoulders can provide overflow parking, an emergency “break down” area, and access for bikers.



SHA/community field walks in Keedysville (top) and Bowie (below).



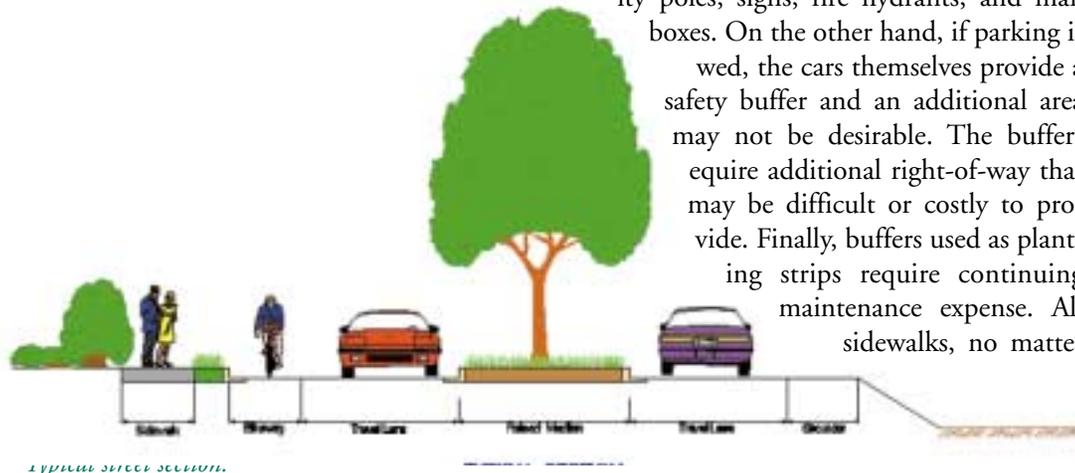
HOW DOES A PROJECT BEGIN?

Clear Zones – This is the unobstructed, relatively flat area provided beyond the edge of the travel way for the recovery of errant vehicles. In other words, if the driver makes a mistake, this is the recovery zone. In downtown areas, the space for clear zones is typically not available, but on the approaches to downtown where speeds are higher, recovery areas may be important. They are not appropriate where the streets are curbed.

Curbs – Two types are available: mountable and barrier (non-mountable). They are useful in drainage control, right-of-way delineation, reduction of maintenance, and separating sidewalks from the roadway. Barrier curbs are typically required in areas with the potential for high speed or with structures close behind the curb.

Sidewalks – There are basically two placement options: flush with the roadside edge (if a curb is provided) or next to a buffer area, such as a planted or paved strip, located between the sidewalk and roadside. The pros and cons of each placement should be discussed. With buffer areas, pedestrians are kept further from moving vehicles, spaces are available for planting and the reduction of hard surfaces, and storage space is provided for snow removal, utility poles, signs, fire hydrants, and mail boxes. On the other hand, if parking is

wed, the cars themselves provide a safety buffer and an additional area may not be desirable. The buffers require additional right-of-way that may be difficult or costly to provide. Finally, buffers used as planting strips require continuing maintenance expense. All sidewalks, no matter



their placement, must comply with the Americans with Disabilities Act Accessibility Guidelines

Bicycle Accommodation – Basically, there are five types of facilities: 1) *Shared Lane* - a “standard width” travel lane that both bicycles and motor vehicles share; 2) *Wide Outside Lane* - an outside travel lane of 16 feet to accommodate both bicyclists and vehicles; 3) *Bicycle Lane* - a portion of the roadway designated by striping, signing, and/or pavement markings for preferential or exclusive use by bicycles; 4) *Shoulder* - a paved portion of the roadway to the right of the traveled way designed to serve bicyclists and pedestrians; and 5) *Multiuse Path* - a facility that is physically separated from the roadway and intended for use by bicyclists, pedestrians, and others. Sidewalks are not considered an acceptable bicycle accommodation.

Landscaping – Vegetation is a key element in and along the roadway and its application is almost limitless. It can aid safety by defining the road edge and slowing traffic, “soften” the hard surfaces needed, add beauty and interest for all users, and, above all, it can help a roadway achieve a better fit with its surroundings. Removing vegetation is often an emotional issue for communities. Alternatives such as traffic barriers, lowering speeds, or designs that incorporate the existing vegetation must be considered. The cost of continuing maintenance and who will be responsible is also an issue that must be considered.

Overhead Utilities – Utility poles along the roadway are often a safety hazard and almost always unsightly. The best, but most expensive solution, is to bury all the lines. Short of this, individual poles may be moved to eliminate interference with the road or sidewalk, the lines may be relocated to another right-of-way (behind roadside buildings, for example), the pole spacing may be increased, or multiple utilities may be combined on a single set of poles. All of these options are complicated, expensive, and time-consuming but often a very high priority in communities.

SHA policy on funding of utility relocation should be discussed early in the process.

ORGANIZING TO CARRY OUT THE WORK

THE TASK FORCE

The most effective means of involving the community in the project is forming a Task Force whose members represent the broadest segment of the community possible and who commit to the process from beginning to end. Technical staff and consultants from SHA will also serve on the Task Force. It must be clear to the community members and the technical staff that they serve on *one* Task Force with a clear, shared set of responsibilities. The group as a whole is charged with obtaining the best result for the community and the state and, as such, they need to have a single agenda.



Task Force meeting

In incorporated towns, the Task Force can be asked to represent the entire community. In unincorporated places, representation and coordination is somewhat more difficult. Those obviously affected by the project should be represented in these situations and consideration should be given to including broader community groups, chambers of commerce, County-level officials, and others who are not directly impacted but have a clear interest in the out-

come. Beginning with the local community and asking their advice on whom to include is always a good approach.

Task Force responsibilities should include:

- Identifying transportation-related issues
- Establishing the project limits
- Assisting in data collection
- Assisting in the organization, publication, and management of field walks, workshops, open houses, and public meetings
- Reviewing materials intended for distribution to the community
- Reviewing and revising all proposed plans, and
- Endorsing the agreed upon final concepts for approval by the local elected officials

To assure that the final concept fully responds to the community, the Task Force should not be dominated by a small interest group, such as residents of a single street or those interested in a single, narrow issue. A wide variety of representation is necessary and this includes critics and detractors as well as supporters – it is better to give critics a voice throughout the process than wait to be confronted with opposition at the end.

THE TECHNICAL STAFF

This group will facilitate and support the community's concept development effort. Some will serve on the Task Force but most will be in the background and will focus on specific issues and solutions. The staff has a variety of responsibilities:

- Facilitating the planning process
- Providing expertise and advice regarding potential solutions
- Assembling technical documentation (e.g. traffic studies, surveys, etc.)

“We took our plans to a town meeting and showed people what we could do for them. Imagine our surprise when people didn’t like what we presented – all of our designs and work for nothing!”

We forgot to ask them what THEY wanted.”

STAFF
Maryland State Highway Administration

HOW DOES A PROJECT BEGIN?

✓ LESSON Organize Your Communications, Build Trust, and Keep Your Contacts Current

Remain open-minded. Respect everyone's point of view. Listen for ideas that exist beyond the pavement and pay attention to how you use or don't use the ideas. *Don't over promise.* Remember that "everybody is somewhat responsible for everything, and nobody is completely responsible for anything." Use contact lists, use visuals, use before and after displays, pay attention to what the Task Force responds to and understands and what they don't.

In the Hancock, MD 144 project, no milestone decision was made without consultation with the Town Advisory Council. Communication was timely and often. Plans in their various stages were posted in very visible locations on the walls of Town Hall. When a decision to remove a signal was made over the objection of some business owners, no one could assert that the process had not been open. The Advisory Council heard all sides and had a share of the responsibility.

- Providing historical and regional context to the local issues
- Sharing experience from other planning efforts and other jurisdictions
- Assuring compatibility with neighboring communities
- Assuring compliance with applicable standards and regulations
- Plan preparation and revision

Project technical staff will be assigned by SHA after a thorough knowledge of the concerns of the community has been achieved and could involve a variety of disciplines e.g. historic preservation, archeology, environmental planning and permitting, project finance, construction, public relations, maintenance, traffic engineering, highway design, transit planning, etc. As new issues arise, and they will, appropriate technical staff should be added.

It is very important that continuity and responsibility among the technical staff be maintained. Assignments should not be juggled from person to person, particularly in the case of the Project Manager. A single manager throughout the project is vital for "project memory" and credibility with the community. If a single manager is not possible, and the reality is that personnel sometimes change, a written understanding of project decisions and commitments must be available at the transition. The local community will remember the decisions because, while the Project Manager may be working on several projects, the community only has one and it is of great importance.

DECISION-MAKING

The Concept Plan will be prepared by the Task Force and without its concurrence on key design features, the project will not move forward to presentation to the community and its elected officials. Thus, the Task Force should determine how it will reach its decisions: by majority rule, by

consensus, by majority and minority reports, or by some other technique. The important factor is to ensure that all members (and through them, other residents and interests) have the opportunity to be involved and to influence the final plan.

SCHEDULES/AGENDAS

The time offered by volunteers is valuable and must be treated as such. This means holding meetings on a regular advance schedule; providing materials before the meetings, if possible, and detailed minutes afterwards; and making certain that the meetings are product-oriented so that progress, or lack thereof, is apparent to all.

Changes to the schedule should be a Task Force decision based on their judgement of the circumstances. The calendar should not cause the sacrifice of project elements or a complete understanding of project needs.

Agendas are an excellent means of communicating and maintaining schedules. A sample "first meeting" agenda prepared for improvements to MD 19 in Church Hill follows on page 17.

COMMUNICATION

Communications among the Task Force outside of regularly scheduled meetings will and should occur. It is particularly important to discuss a way for the local group to communicate the ideas it gathers from other members of the community in a timely fashion.

Contacts between the technical staff and the Task Force is best directed through the Project Manager or the Project Engineer and the Town Manager/Administrator or local staff contact. One point of contact is easier for the community and best for the project in that the responsible manager is aware of all requests, changes, or new needs, can direct them to the appropriate channels, and can inform all concerned of new directions.

PUBLIC MEETING AGENDA (SAMPLE)
CHURCH HILL
IMPROVEMENTS TO MD 19

The opportunity for Questions will follow each presentation.

1. Introductions
Town of Church Hill
2. Purpose of Meeting and Project History
Presented by Town of Church Hill and SHA District 2 Representative
3. Proposed Limits of Project
Presented by SHA Project Manager
4. Issues To Be Addressed
Presented By Town of Church Hill and SHA

Initial Town Concerns: Drainage, Bridges, Parking, Sidewalks, Utility Poles, Traffic Lights, Street Lighting

Fundamental SHA Concerns: Safety, Efficiency, Access, Maintenance, Signing
5. Sample SHA Projects in Other Communities, Specific Solutions Reached, and Why the Solutions Were Selected
Presented By SHA
6. How Do We Proceed From Here?
Presented By Town of Church Hill and SHA
 - Formation of Task Force
 - Communications
 - Product Schedule
 - Right-of-Entry Agreements

The simplest communication mechanism is a set of meeting minutes distributed to all necessary parties. A good format for minutes identifies the concern, gives the background or the proposed solution, and, most importantly, *identifies who is to follow-up*. The point is accountability.

PROJECT GOALS AND OBJECTIVES

The purpose of this phase is to understand needs without predetermining the budget. The scope should remain flexible throughout the concept development process. A too narrow scope may prevent identification and analysis of all the needs. Funding or the need to obtain difficult permits must not limit the examination. The look at the community must be comprehensive and include items that SHA does not typically fund. Other sources of financing may be available and directions and assistance to these funding sources should be provided. The Department of Housing and Community Development is a partner in many road improvement projects and should be involved as a strong and knowledgeable resource.

At a minimum, the project goals and objectives should flow from directions laid out in previous comprehensive planning projects and contain an understanding of why the community and SHA are embarking on this effort.

The following format can be used as an example of objectives and issues that could be examined in the course of Concept Plan development. The list should be provided to the Task Force members as a guide to what will be studied and what should be accomplished. It is very useful as a checklist when the final plans are being analyzed. Such a list answers the question . . . Have we done what we set out to do? Individual items will, of course, be different for each community and may expand or contract as the project proceeds or town priorities change. The Concept Plan checklist on page 18 is based on the issues and opportunities found in the community of North East.

✓ LESSON
**Construct Your Teams Carefully,
Maintain Continuity, and Keep
Everyone Updated**

You are designing a “place” not just a piece of pavement, so let the “place” help determine the make-up of the Task Force and technical staff. Not all important contributors live on Main Street. Identify your stakeholders, both inside and outside of the community and inside and outside of SHA, early and often. Set a realistic schedule and communicate it to the community, decision-makers, and the Task Force and staff. Keep everyone on board with regular progress reporting and open communications.

In Hancock on MD 144, the Town Advisory Council became a key Team Member. They provided insight into the community’s priorities, what would fly and what would not; they advised of related projects like the County Senior Housing development on a key corner and the Western Maryland Rail-Trail development. They offered support for local funds to add street lights to the job, right-of-entries for sidewalk work, and information on archeological resources.

HOW DOES A PROJECT BEGIN?

CONCEPT PLAN CHECK LIST (SAMPLE)

NORTH EAST

MARYLAND 272 – FROM US 40 TO IRISHTOWN ROAD

SHA GOALS

- Improve auto and non-auto accessibility to town businesses and services.
- Improve traffic flow through town center.
- Reduce safety hazards caused by roadway environment.
- Correct drainage problems within project limits.
- Promote amenity improvements within project limits.
- Protect and enhance environmental quality within the area.
- Reinforce the land use plans of the community by assuring that the functions and requirements of the various land use types are respected and served.

PROJECT ELEMENTS

ACCESSIBILITY

- ADA-compliant sidewalks and curb entrances.
- Provide for handicapped parking spaces.
- Install sidewalk where needed.
- Install pedestrian sidewalk at Railroad Bridge.
- Extend sidewalk from South Main Street to VFW.
- Repair/replace existing sidewalk.
- Replace failing sidewalk at North East Creek Bridge.
- Replace failing sidewalk at 203 South Main Street Bridge.
- Install crosswalks when necessary.
- West and Main Street.
- Identify and create bike paths.
- Install pedestrian lighting.
- Install bump outs.
- Identify transit stops.

TRAFFIC FLOW

- Address parking problems and their contribution to delay for traffic traversing Main Street.
- Install parking at the bottom of slope between Russell Street and Railroad Bridge.
- Look into off-street parking options.
- Install flashing light for school crossing.
- Adjust signal timing.
- Identify turning radius issues for service vehicles.

SAFETY

- Repair and overlay existing pavement.
- Overlay from north side of Railroad Bridge to Irishtown Road.
- Accident analysis to check for problem locations.
- Repair curbs.
- Improve roadway lighting.
- Repair bridges.
- Paint Railroad Bridge and North East Creek Bridge.
- Replace/Repair bridge at 203 South Main.
- Extend guardrail in front of house at Russell Street corner.

DRAINAGE

- Install curb and gutter system.
- Pipe ditch near 614 South Main and install curbing on the East Side of Main Street.
- Provide new inlets where needed.
- Water does not completely drain at island to Walnut Street.
- “Water ponds” at West and Main Street.
- Install storm drains between Main Street at Cecil Avenue and 106 South Main Street.
- Repair existing inlets.

AMENITIES

- Landscape on the east side of bridge at 203 South Main.
- Landscape west side of street between Russell Street and Railroad Bridge.
- Landscape Town entrances.
- Landscape open spaces.
- Provide recommendations for benches, lighting, trash receptacles, etc...

UTILITIES

- Bury all overhead utilities from Railroad Bridge to Irishtown Road.

HISTORIC PRESERVATION

- Identify historic features and analyze for contribution to overall design approach.

ENVIRONMENTALLY SENSITIVE AREAS

- Identify all environmentally sensitive areas and improve their protection.

MAINTENANCE

- Examine local maintenance capabilities and the maintenance requirements of proposed improvements.

BACKGROUND ANALYSIS



3

BACKGROUND STUDIES/SITE ANALYSIS

GATHERING INTELLIGENCE

TECHNICAL SUPPORT FROM SHA

The bulk of the technical background necessary for a thorough project is carried out by SHA and it is important to understand how this large agency is organized. The more comfortable the community becomes with its understanding of the technical capabilities of its partners, the better the questions, information, and product.

The widest view of SHA is shown in the diagram at right.

The key functional units that will provide personnel, data, and designs follow. Each of these offices has a face that should grow very familiar over the course of the work.

OFFICE OF PLANNING AND PRELIMINARY ENGINEERING

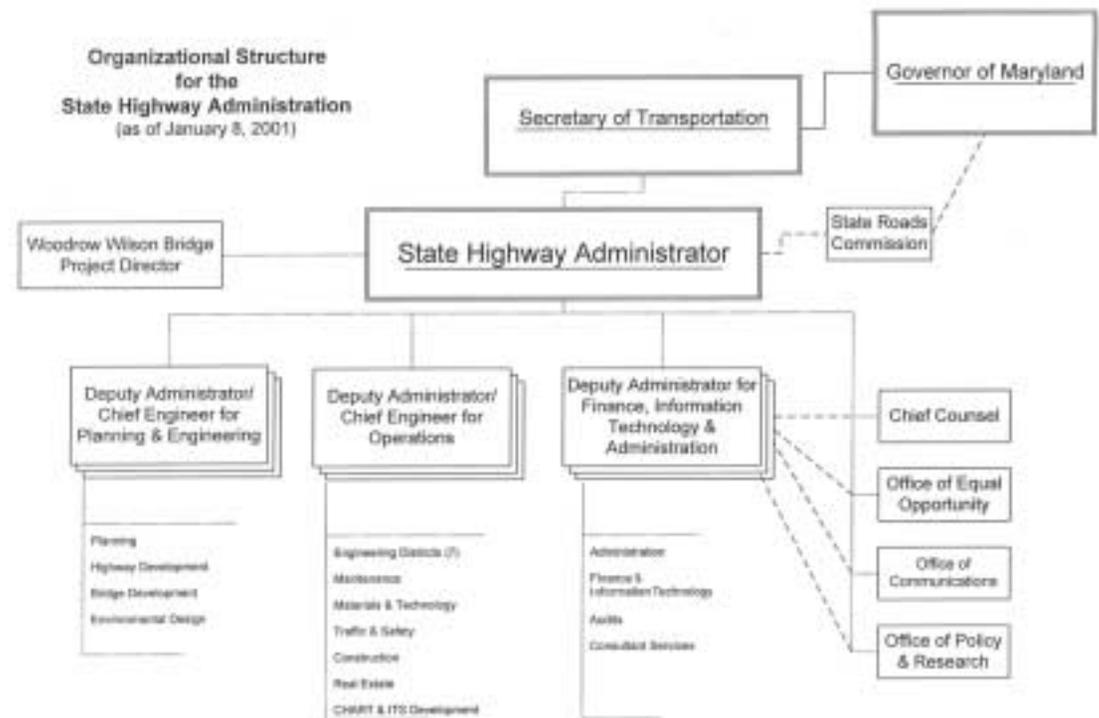
The mission of this office is to coordinate transportation planning statewide and perform project planning activities. This includes working with federal, state and local agencies on long-term transportation plans; conducting public meetings; and preparing environmental documentation for projects. This office is also responsible for preparing the six-year funding program for state highway projects known as the Consolidated Transportation Program.

The Office has four divisions:

The Highway Information Services Division maintains the database of highway information in both electronic and graphic form. This inventory is a compilation of State and county roads and is the basis upon which Highway User Revenues are distributed to counties and municipalities. The division also produces Maryland's Highway Tourist and Bicycle maps, as well as many other

map products, including the Traffic Volume Map, which are available to other state agencies and the general public.

The Program Development Division has the lead for coordinating and producing SHA's portion of the Department's Consolidated Transportation Program. This includes projecting SHA's six year funding levels and allocating the appropriate categories of Federal Funds.





Mt. Rainier roundabout under construction.

The Regional and Intermodal Planning Division is responsible for long range systems planning and the integration of SHA's program with local and regional transportation plans. The Division coordinates with the Department of Transportation, the Metropolitan Planning Organizations, the counties, and local jurisdictions, to develop SHA's portion of the Metropolitan Transportation Improvement Program. The division manages the Transportation Enhancement Program and supports the Maryland Bicycle and Pedestrian Advisory Committee. Regional Planning Teams are based on geographic regions (Baltimore Metropolitan, Eastern Shore, Southern Maryland, Washington Metropolitan, and Western Maryland.) Each Team is responsible for long range planning activities for their areas. This office also includes the Bicycle and Pedestrian Coordinator whose responsibility is to assure that bicycle and pedestrian accessibility is included as part of all roadway improvements where it is reasonable and feasible to do so.

The Project Planning Division has the lead responsibility for completing federal and state environmental documentation and obtaining location approvals consistent with the National Environmental Policy Act (NEPA) and the Maryland Environmental Policy Act. The division is responsible for developing and acquiring engineering mapping, performing preliminary engineering, developing travel demand forecasts, initiating local government, state and federal agency coordination, and preparing required engineering and environmental analyses and documentation, including re-evaluations. The identification and documentation of project specific engineering and environmental (noise, cultural, and socio-economic) commitments that are conditions of project approval are also a responsibility of this division. During the re-evaluation process, the division ensures that documented commitments are addressed during the design phases. The division also takes the lead

on the coordination of public involvement for all major projects within SHA.

OFFICE OF MATERIALS AND TECHNOLOGY

This Office provides materials-related services to SHA's planning, design, construction, and maintenance offices. These services are also rendered to other transportation modal administrations, counties, and other state agencies and municipalities.

OFFICE OF BRIDGE DEVELOPMENT

The Bridge Inspection and Remedial Engineering Division keeps state highway structures safe through continuous regular inspection of all existing structures. This division also provides for structural analysis, routine and preventive maintenance, and repair and replacement contracts.

The Bridge Design Division provides the designs for all structures on the state-maintained system, which includes new bridges, bridge replacements, deck replacements, culverts, retaining walls and noise abatement walls. This unit is also involved in the bridge replacement program for all county-owned bridges and reviews all documents prior to advertisement.

The Structure Hydrology and Hydraulics Unit provides hydrology and hydraulic studies (the study of water flow and how it effects the area of the structure and the surrounding areas) and determines sizes of proposed structures over streams, rivers, and wetlands. This unit also evaluates each crossing as it relates to the passage of fish and provides recommendations to ensure their passage.

OFFICE OF CONSTRUCTION

The mission of this Office is to expedite construction projects as safely as possible with minimum impact on the traveling public. The office's major areas of responsibility

include: contract processing (bid openings, contract award, notice to proceed), payments to contractors, establishment of MBE goals and Affirmative Action Plans, approval of change orders, construction inspection, training, statewide utilities (relocation, determination of prior rights, billing, coordination), claims avoidance/resolution, establishment of policies and procedures, and related support functions.

OFFICE OF TRAFFIC AND SAFETY

The Office of Traffic and Safety (OOTS) plays a major role to assure that State roads operate safely and efficiently. OOTS provides a wide range of traffic engineering, traffic operations, and traffic safety support to SHA’s Districts and other units.

Among the many OOTS functions are: establishing standards and guidelines for traffic control devices (traffic signs, traffic signals, pavement markings, etc.); providing guidance on the use of traffic measures; the design/installation of highway lighting; the design of highway features and roadside furniture; conducting traffic planning and engineering studies; providing technical assistance on traffic signal timing; operational capacity of specific streets and roads, etc.; and identifying locations in need of safety and/or operational improvements and providing technical counsel in the development of solutions to the identified problems.

OFFICE OF MAINTENANCE

The Office of Maintenance leads and supports all maintenance operations and personnel. The Office is the focal point for all highway maintenance, equipment needs, communications systems, facilities management, maintenance budget control, emergency response, inventory control, and manpower and resource allocation.

OFFICE OF HIGHWAY DEVELOPMENT

The Office of Highway Development is composed of four divisions responsible for detailed location and design of all highway improvement projects. *The Highway Design Division* is responsible for establishing design criteria for highways and other associated facilities, development of standards and specifications for construction projects, preparation and review of highway construction plans, and the preparation of contract documents.

The Engineering Access Permits Division is responsible for regulations having to do with permitting work within SHA right-of-way, maintaining close coordination with all counties to provide SHA input into zoning, subdivision, site plan, building permit, and use and occupancy permit processes, and ensuring that proposed developments or public projects are compatible with long-term highway needs.

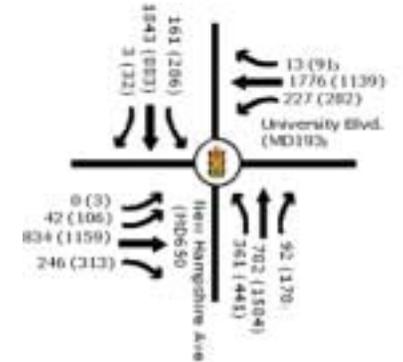
The Plats and Surveys Division performs or supervises all field surveys for planning, design, hydrologic studies, property line determination, and the establishment of initial construction “stakeout” for all SHA projects. In addition, they prepare, supervise, and review preparation of right-of-way plats, land conveyances, road transactions, and deed descriptions.

The Highway Hydraulics Division is responsible for providing engineering for highway drainage, stormwater management, erosion/sediment control, and small waterway crossings. This includes permitting and assisting in all other environmental permitting activities for all SHA offices.

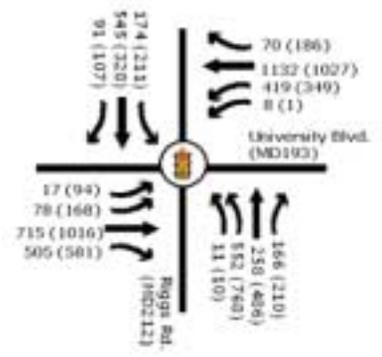
OFFICE OF REAL ESTATE

The Office of Real Estate acquires real estate and provides real estate services for SHA and other MDOT projects.

Traffic Volumes



A.M. Peak: 7:45 to 8:45
P.M. Peak: 5:00 to 6:00



A.M. Peak: 7:30 to 8:30
P.M. Peak: 5:00 to 6:00

Vehicle counts for Langley Park’s International Corridor traffic analysis.

✓ **LESSON**
Identify Transportation Needs Up Front

Communities must not forget that SHA is also a stakeholder. Acknowledge the transportation need that will be served by the project and understand what cannot be compromised, for example, traffic, pedestrian, and bicycle safety. All modes of transportation must be considered.

The Woodrow Wilson Bridge is a regional economic development effort that must accommodate future growth. This translates to the need to accommodate future traffic volumes, marine traffic, mass transit goals and access to particular areas of growth near the bridge. All of this is occurring under the aegis of safe efficient movement for the public. These transportation requirements were made clear from the beginning.

OFFICE OF ENVIRONMENTAL DESIGN

The mission of this Office (OED) is to incorporate environmental design as a fundamental and integral component of highway planning and design. Its functions include the development of design concepts and final designs for wetland mitigation, stream restoration, sound barriers, streetscapes, highway landscaping, rest areas and welcome centers, greenways, scenic byways, trees and forest conservation and highway aesthetics.

The Environmental Programs Division manages SHA's permitting responsibilities regarding the impact of roadway construction on wetlands and streams. It deals with all citizens and public and private agencies with an interest in the project. The permitting process requires consideration of the impact, what alternatives are available, what course of design and construction is the most appropriate, and final compliance with the agreed upon actions. A primary concern during the review is wetland mitigation and stream restoration planning, design, construction, maintenance, and monitoring. Building upon Maryland's Chesapeake Bay programs, the Division conducts pre-, during, and post-construction monitoring of wetlands and streams to determine physical, chemical and biological changes and to assess the effectiveness of its requirements and practices.

The Landscape Architecture Division directs, administers, and supervises the development of concepts and designs of landscape architectural projects. These include safety rest areas and welcome centers, highway landscaping, streetscapes, sound barriers, tree and forest mitigation, and mitigation of impacts to historic sites.

The Landscape Operations Division is responsible for SHA's efforts in reforestation and tree preservation, turf management, roadside vegetation management, tree maintenance, pest control, and wildflower programs.

OFFICE OF COMMUNICATIONS

The Office of Communications provides information to the public about highway projects, traffic and roadway conditions, special programs, and agency policies and achievements. OC is responsible for media relations, crisis communications, public affairs strategic planning and counsel, publications, community outreach, customer service, special events and employee communications. OC also handles customer phone inquiries and helps provide SHA services on the Internet.

DISTRICT OFFICES

The District Engineer is responsible for overseeing all areas of district operations which include: traffic, construction, maintenance, engineering systems, right-of-way, and utilities. There are seven engineering districts which cover the 23 counties of the state. The district offices are located in Salisbury, Chestertown, Greenbelt, Brooklandville, Annapolis, LaVale, and Frederick (see map on page 50).

District Engineer – The District Engineer is the senior manager of the district and is responsible for overseeing all areas of district operations.

Traffic – The traffic office is responsible for the application of traffic engineering principles to the planning, design, construction, and operation of transportation facilities.

Construction – The construction office administers and inspects state capital construction projects.

Maintenance – The maintenance office administers and inspects district maintenance projects, develops and monitors the district maintenance operating budget, and supervises the district emergency response center.

Engineering Systems – The engineering systems office develops plans and specifications for roadway system preservation projects including spot safety, drainage, resurfacing, and intersection operations improvements.

Right-of-Way – The right-of-way office appraises, negotiates, and acquires land for consolidated transportation projects and district special projects.

Utilities – The utility office oversees utility permits and relocations.

PROJECT BACKGROUND & INVENTORIES

Any design process requires basic information that allows the participants to understand the spatial and non-spatial environments within which they will be working. For roadway work in the hearts of our communities, the needs are many – base maps, accident histories, numbers of parking spaces, pavement conditions, future land use plans, utility locations, and so on. Good information at the right time will expedite the overall process by avoiding modifications in the later engineering design phase because of the tardy supply of important information. Moving some activities (e.g. stormwater management studies, pavement borings, landscaping concepts, property plats, appraisals) to an earlier point in the overall design process allows better, more informed decisions to be made at the concept stage.

All of this information must be managed so that not only the technical staff and the Task Force are aware of its content and meaning, but it must also be available to additional and new staff as the project moves through engineering design and construction.

Typical information for a Main Street concept development project should include the data shown on pages 24-26.

SECOND FIELD WALK

Following production of the inventory, everyone involved will have a better understanding of the opportunities and limitations found in the project and a second field walk by the Task Force may be appropriate. While the first field

walk gathered impressions and allowed residents to point out concerns, the second walk can focus on specific issues uncovered in the inventories and provide a much more in-depth understanding of possible solutions.

Issues that typically arise and need closer inspection by the Task Force include:

- Improving the aesthetics or historic character of the community
- Roadside treatments and views
- Functioning and character of medians
- Condition and quality of existing vegetation
- Landscaping opportunities
- Location of and need for sidewalks, pedestrian crossings, and bicycle paths
- Use and condition of stormwater ponds, drainage swales, and drainage structures
- Condition of slopes and retaining walls
- Appearance and functioning of traffic barriers, fencing, and guardrails
- Location of and need for signing and lighting
- Identification of significant historic features.

As in the first field walk, participants should meet beforehand to discuss what is to be accomplished and afterward to talk about what they saw, heard, and are going to do next.



Rock Hall field visit.

✓ LESSON Acknowledge the Variety of Uses That Will Occur in the Spaces You Are Creating

Understand that vehicles will not be and should not be the only users of the improvements in your project. Acknowledge the legitimate and “illegitimate” needs of shoppers, daydreamers, walkers, bikers, tourists, commuters, children, and pets with...

- Pedestrian access and crosswalks
- “Refuge areas” for pedestrians
- Transit access-ways and waiting areas
- Bicycle ways, bicycle parking, regional trails, commuter vs. recreational ride
- Traffic calming devices, local street circulation, cross-streets
- Landscaping, pocket parks, entry points
- Activity related to building use and community layout
- Public buildings or destinations off the roadway
- Parking on-street, off-street access, and way-finding indicators
- Business access, visibility, activity on the sidewalk

The roundabout design in Mt. Rainier on US Rt. 1 solved several concerns: slowing traffic through the center of town; creating more secure and attractive places for people waiting for buses; and uniting the two sides of Route 1. Project designers listened as traffic engineers noted concerns that pedestrians might be drawn into the roundabout. They designed planter walls that helped to keep pedestrians in the desired pathways and marked crosswalks, then made the pedestrian spaces more animated with bas-relief sculptural detailing.

BACKGROUND STUDIES / SITE ANALYSIS

BACKGROUND INFORMATION	RESPONSIBILITY	RESOURCES
<p>Base Maps & Aerial Photos</p>	SHA Project Manager	<p><i>Survey Data:</i> Plats and Surveys Division, Office of Highway Development <i>Aerial Photographs:</i> Plats and Surveys Division, Office of Highway Development and the Project Planning Division <i>Right-of-Way Data:</i> Plats and Surveys Division, Office of Highway Development <i>As-Built Plans:</i> Highway Design Division, Office of Highway Development <i>Tax Maps:</i> Office of Real Estate <i>Property Deeds:</i> Plats and Surveys Division, Office of Highway Development</p>
<p>Circulation/Traffic Operation “Bottlenecks” (roadway width, visibility, etc.) Accident data Traffic counts including trucks Intersection conditions (turning radii, level of service signal timing, condition of equipment) Safety conditions Location of existing roadway lighting Location of existing pedestrian lighting</p>	SHA District Office	<p><i>Traffic Data:</i> District Traffic Office <i>Pavement History:</i> Structures and Pavement Inspection Division, Office of Materials and Technology <i>Accident History:</i> District Traffic Office <i>Geometric Studies:</i> District Engineering Systems Office <i>Traffic Control Plans and Details:</i> District Traffic Office</p>
<p>Local Circulation Off of the State System Condition of facilities “Bottlenecks” (roadway width, visibility, etc.) Pedestrian, bicycle, and vehicular needs</p>	Local community with assistance from the SHA District Office	Local public works department or consultant engineer Local budget history Local experience
<p>Parking Number of spaces Size of spaces Handicapped spaces Municipal parking and capacity Parking restrictions</p>	Local community	Local community must count and locate the spaces
<p>Sidewalks Location Condition Pedestrian paths without sidewalks Obstacles (stairs, utility poles, signs) Areas of high pedestrian traffic (schools, transit stations, and commercial centers)</p>	Landscape Architecture Division and the Bicycle & Pedestrian Coordinator	<p><i>Landscape Architecture:</i> Landscape Architecture Division, Office of Environmental Design Local experience</p>
<p>Bicycles Location Condition Existing and proposed off-road and on-road bicycle facilities Obstacles to bicycling Areas of significant bicycle use</p>	Bicycle & Pedestrian Coordinator	Local community Bicycle & Pedestrian Coordinator

BACKGROUND INFORMATION	RESPONSIBILITY	RESOURCES
<p>Signing Gateway signage Street traffic signing location and type</p>	<p>Landscape Architecture Division & SHA District Office</p>	<p><i>Lighting:</i> District Traffic Office <i>Signing:</i> District Traffic Office <i>Signal Design:</i> Office of Traffic and Safety <i>Roadside Safety Design:</i> District Traffic</p>
<p>Land Use Land use types: residential, commercial (names of operation), public, etc. Land in public ownership Targeted areas for redevelopment, vacancies, etc.</p>	<p>Local community</p>	<p>Community comprehensive plans Pending development proposals Local tax maps</p>
<p>Roadway and Curb Condition Pavement widths Pavement materials Condition of pavement and curb</p>	<p>Structures and Pavement Inspection Division</p>	<p><i>Borings:</i> Structures and Pavement Inspection Division, Office of Materials and Technology <i>Pavement Design:</i> Structures and Pavement Inspection Division, Office of Materials and Technology <i>Test Pits:</i> Structures and Pavement Inspection Division, Office of Materials and Technology</p>
<p>Local Maintenance Policies & Capabilities Capacity to provide maintenance for the types of improvements sought Limitations</p>	<p>Local community</p>	<p>Local budgets</p>
<p>Drainage Inlet location and condition Suspected capacity problems Location of storm drains Approximate drainage areas Building downspout drainage across sidewalks Sidewalks lower than roadway</p>	<p>Highway Hydraulics Division</p>	<p><i>Drainage Studies:</i> Highway Hydraulics Division, Office of Highway Development <i>Stormwater Management Studies:</i> Highway Hydraulics Division, Office of Highway Development <i>Roadway Drainage:</i> Highway Hydraulics Division, Office of Highway Development <i>Hydraulic and Hydrologic Design:</i> Highway Hydraulics Division, Office of Highway Development <i>Erosion and Sediment Control:</i> Highway Hydraulics Division, Office of Highway Development</p>
<p>ADA Compliance Sidewalks Curb ramps Obstructions/width Building entrances</p>	<p>Landscape Architecture Division and the Bicycle & Pedestrian Coordinator</p>	<p><i>Landscape Architecture:</i> Landscape Architecture Division, Office of Environmental Design Community experience</p>

BACKGROUND STUDIES / SITE ANALYSIS

BACKGROUND INFORMATION	RESPONSIBILITY	RESOURCES
Environmental Conditions Wetlands Tree stands/champion trees Soils Significant vegetation	Office of Environmental Design & the Project Planning Division	<i>Wetlands Delineation:</i> Environmental Programs Division, Office of Environmental Design <i>Forest Stand Delineation:</i> Environmental Programs Division, Office of Environmental Design <i>Critical Area Assessment:</i> Environmental Programs Division, Office of Environmental Design <i>Environmental Inventory, Studies and Assessment:</i> Project Planning Division, Office of Planning and Preliminary Engineering <i>Noise Analysis:</i> Landscape Architecture Division, Office of Environmental Design <i>Wetlands Mitigation:</i> Environmental Programs Division, Office of Environmental Design <i>Stream Restoration:</i> Environmental Programs Division, Office of Environmental Design
Historic and Cultural Assets Buildings Coal chutes, underground tanks Landmarks Archeological Resources	Office of Environmental Design & the Project Planning Division	<i>Historical and Archeological Assessment:</i> Project Planning Division, Office of Planning and Preliminary Engineering Local community organizations and individuals
Major Infrastructure Utility locations Condition of bridges Condition of water and sewer facilities	Office of Highway Development, Bridge Inspection and Remedial Engineering Division, local community	<i>Bridge Replacement:</i> Bridge Design Division, Office of Bridge Development <i>Bridge Widening:</i> Bridge Design Division, Office of Bridge Development <i>Bridge Redecking:</i> Bridge Design Division, Office of Bridge Development <i>Bridge Repairs:</i> Bridge Design Division, Office of Bridge Development <i>Retaining Walls:</i> Bridge Design Division, Office of Bridge Development Local public works department or engineering consultant
Overhead Utilities Providers Ownership/easements/agreements What is carried on poles	District Office & the community	<i>Utility Relocations:</i> District Utility Office Local utility providers

CREATING ALTERNATIVES



4

SCHEMATIC CONCEPTS

CREATING ALTERNATIVES

FIRST APPROXIMATIONS

The joint challenge for designers and the community is to remain fixed on the overall goals of the project while dealing with the many design details that must be resolved. The initial approximations should be driven by an overall project vision with the highway design manuals providing checks, not barriers.

RELATE THE FUNCTION OF THE ROAD TO ITS NATURAL SETTING

Pay careful attention to all natural features and don't treat them as engineering obstacles. Conforming to the setting and supplementing it with landscaping can be the "sales leader" for the project. The Canal Parkway project in Cumberland was designed to enhance the tourist experience and convenience as well as blend into the C&O Canal National Historical Park. It needed to coexist peacefully with the railway line, the towpath for bikers, horseback riders, and hikers, and the canal, that when re-watered, will serve canoeists and fishermen. Picturesque views from the parkway were considered features to be preserved.

RELATE THE FUNCTION OF THE ROAD TO ITS "BUILT" SETTING

Treat the "built" setting as another kind of landscape. Consider the setback and mass of buildings, key commercial corners and sites, landmark buildings, nearby schools, parks, community centers, swimming pools, libraries, and other community areas. On MD 140 in Reisterstown, the physical design elements were selected and organized to reflect the built surroundings. These included sidewalk

types, lighting, parking, emergency vehicle access, utilities, and vegetation. Residential areas were distinguished from commercial areas with different treatment. Buildings close to the street were considered differently than areas with greater setbacks and large lawns and trees.

The Task Force must manage the project with equal respect for all of its objectives. Although this means dealing with a broad agenda, it is an accurate reflection of the complexity of working in a community setting. Ignoring one aspect of the problem or minimizing one project goal will not lead to a successful result – the very thing that was ignored will be the one thing that scuttles the project at the last moment and requires a redesign.

Keep in mind that competing priorities must be discussed and dissected over and over again (e.g. truck turning radii vs. crossing distances for pedestrians, traffic safety vs. landscaping, traffic volumes vs. traffic speeds, automobile needs vs. bicycle needs, the parking needs of local businesses vs. pedestrian access to the same businesses, historic preservation vs. modernization). There are no pat answers to any of these questions; each situation must be analyzed within its own unique physical and human context. Insistent and conflicting voices will be heard from the community and confident, sometimes protective voices, will be heard from technical staff. Do not let personal or agency agendas dominate; accept ideas and test the solution in its totality.

Issues of safety will arise over and over again and several points about safety are worth noting and remembering ...

- safety is relative, there is no absolute standard;
- safety is one of several criteria, important but not necessarily overriding;

"Fail forward. It's okay to make a mistake. The trick is to learn from it."

MODERATOR
Sharpsburg Meeting



Residential street character in Keedysville.

✓ **LESSON**
Play the Strengths of Your Team
and Don't Let a Narrow
Disciplinary Focus Dominate

Float ideas early on, share suggestions, and let ideas, not personalities, compete. Do not let an "us against us" situation arise. You cannot achieve this by managing from horseback. Join your team on the ground and pay attention to the details. Expect every project to be different, because it will be.

- judgements about safety must consider all groups, bicyclists and pedestrians as well as vehicular users; and
- always remember that "wider, flatter, and straighter" is not always safer.

A TOOL KIT OF OPPORTUNITIES

Achieving even the single objective of reducing vehicle speed will require the use of a variety of physical solutions. Achieving the additional objectives of reducing the volume of traffic, improving the appearance of the street, improving pedestrian accessibility, and reducing auto dependence will require even more changes to the roadway.

What follows is a tool kit of physical measures that should be considered when redesigning Main Street. Each description includes the general circumstances where the solution may be appropriate or inappropriate and where examples may be found in Maryland communities.

MANAGING THE SPEED AND VOLUME OF TRAFFIC

Angled Parking – If streets are wide enough, angled parking increases the total number of parking spaces that can fit within a block and often lowers speeds because the travel lane width is slightly narrowed and drivers are more alert to cars backing into the roadway.



*Angled Parking,
Eldersburg, MD*

Narrowed Lanes – This is simply a reduction in the width of the travel lane. It is used to reduce vehicle speeds, reduce the crossing distance for pedestrians, increase pedestrian visibility, and to prevent parking too close to an intersection. Typically, low volume streets (i.e. one car or less per minute) do not need wide travel lanes.

Narrowed lanes may be found on MD 193 near Mandan Road in Prince George's County and Central Avenue (MD 214) in Seat Pleasant.



Narrowed lanes

Chicanes – A chicane is a series of curb bump-outs or nodes that extend out into the street on alternating sides of the roadway. They may or may not narrow the travel lane but always require the driver to steer from one side of the roadway to the other to negotiate the chicane. They slow traffic, discourage short-cutting, and provide landscaping opportunities.



Chicanes

On-Street Parking – Parking can be allowed on both sides of a roadway or parking zones can be located on alternating sides of a street to create a chicane effect. Both alternatives may reduce vehicle speeds because of "side friction" and potentially reduce the volume of traffic along a street. Because this measure relies on an effective reduction in traffic lane width for much of its effect, the provision of additional space for bicycles would reduce effectiveness significantly.



On-Street Parking

Choker – A set of two curb bump-outs or nodes that extend into the street at an intersection narrowing it to as small as one lane. It causes drivers to slow when entering and exiting the street. The choker is used when there is an unacceptable amount of shortcut traffic, speeding, or a transition is needed from a business area to a residential area.



Choker

Chokers may be found in Mt. Rainier, most roundabouts, and in Bel Air

Bumpouts or Nodes – These features extend the sidewalk into the street. They provide opportunities for landscaping and street furniture, shorten the street crossing distance for pedestrians, protect parked cars from on-coming traffic, and provide better visibility for pedestrians by allowing them to look around parked cars without entering the street. Bumpouts at an intersection prevent parking in a crosswalk or blocking handicapped ramps. They also slow traffic by narrowing the roadway and restricting turning speeds.



Bumpouts may be found in Bumpout / node, Bond Street in Bel Air, MD Westminster and MD 924 in Bel Air.

Curb Radius Reduction – Reducing the radius of a curb at an intersection can slow drivers who do not completely stop to make a right turn. A reduced radius shortens the pedestrian crossing distance, improves visibility, reduces turning speeds, and may add parking spaces. Always consider the turning radii of trucks, buses, and emergency vehicles when they are heavy users of the intersection.



Curb radius reduction, Denton, MD

Full Street Closure – This is a physical barrier that closes the street to vehicles. Pedestrians, bicycles, wheelchairs, and emergency vehicles can be accommodated. A turnaround should be provided at the closure. Use of a full street closure is highly unlikely on a state road, but may be desirable on connecting neighborhood streets if they are used as shortcuts and cause high traffic volumes and pedestrian conflicts.

One-Way Streets – Designating a street for one-way traffic can be used to improve mobility or restrict vehicle access. A one-way street should be paired with another street with traffic flow in the opposite direction and is best used on narrow streets with high volumes where the one-way prohibition is self-enforcing. One-way streets can result in higher speeds and, if not carefully planned, increase traffic through other areas as drivers seek alternate routes.

One-Way Main Streets may be found in Elkton on Main Street and in Annapolis on Main Street.

Partial Street Closure – This is created by a node or curb extension that physically blocks one direction of traffic at an intersection on an otherwise two-way street. It is the equivalent of a Do Not Enter sign but provides landscap-

SCHEMATIC CONCEPTS

ing space and a physical barrier. It is used to eliminate cut-through traffic.

Pedestrian Refuge Islands – Pedestrian refuges are raised islands in the center of the street at marked, intersection crosswalks. They allow pedestrians faced with a wide street and a short light sequence, a chance to stop safely before crossing the rest of the street. They also provide an opportunity for landscaping.



Pedestrian Refuge Island across York Road in Towson, MD

Pedestrian Refuge Islands may be found on MD 214 in Seat Pleasant and along MD 2 in Brooklyn Park.

Raised Intersections – This measure raises the surface of the roadway from crosswalk to crosswalk as a means of reducing speeds and better defining crosswalk areas. Although they are not used on state highways, they can be looked at for use on local streets.

Raised Intersections may be found in Cumberland.

Roundabouts – These are large, raised islands, usually landscaped, designed to lower speeds and improve traffic flow as drivers maneuver through an intersection. Traffic circulates in one



Roundabout, West Street at Taylor Avenue in Annapolis, MD.

direction only and no signals are used. SHA has developed standards for the use of roundabouts and is experienced in their application.

Roundabouts may be found in

Annapolis at West Street and Taylor Avenue and along York Road in Towson

Traffic Signs – Stop, yield, speed limit, and warning signs require that very specific conditions be present to warrant them. Posting too many can cause unnecessary distractions or cause drivers to disregard the sign's warning.

Speed Humps – These are raised areas of pavement extending completely across the roadway that deflect both the wheels and the frame of a crossing vehicle. They are designed to reduce speeds with the desired speed controlled by the dimensions of the hump and the spacing between them. These measures are not used on state roads.

Medians – These are long, raised islands placed in the center of the roadway. They slow traffic, provide space for landscaping, and give pedestrians a safe place to stop as they cross the street.

Placing a median in an existing street typically requires narrowing lane



Roundabout, York Road at Dulaney Valley and Joppa in Towson, MD.



Median, Ritchie Highway, Brooklyn Park, MD

widths, eliminating a travel lane(s), or removing parking. Medians can be especially effective on four-lane roads where they dramatically improve the visual quality of the facility.

Medians may be found in Annapolis on Rowe Boulevard, along MD 202 in Landover, and along MD 2 in Anne Arundel County.

Interrupted Sight Lines – If drivers can see a long way into the distance, their speed increases; if they cannot see a long way ahead, their speed decreases. In certain low speed conditions, interrupting a driver’s sight line with chicanes, roundabouts, bumpouts, medians, or crosswalks not only maintains slow speeds but widens a driver’s vision so that they are more aware of pedestrians and cyclists.



Interrupted Sight Lines

IMPROVING STREET CONDITIONS

Utility and Signage Consolidation – Many streets and sidewalks are physically and visually cluttered with numerous utility poles, wires, lights, and signs. This condition is usually the unintentional result of many independent decisions made over many years by many different parties. Recovery from this clutter is one of the most difficult and expensive aspects of improving street con-



Signage Consolidation

ditions. Utility companies are not normally eager to place their facilities underground or relocate them behind buildings because it is low on their



Utilities Consolidation, Bel Air, MD

list of priorities and communities are either unwilling or unable to pay the high cost involved. Street lighting (not pedestrian lighting) is governed by standards that, if they are being met, offer little priority for beautification. Street traffic signs are also controlled by standards that, even if they seem excessive, are standards nonetheless.

Utility and Signage Consolidation may be found in the city of Frederick.

Curbs and Gutters – A curb is a raised physical barrier between the roadway and sidewalk or planting strip and separates vehicles from pedestrians. The gutter is usually an integral part of the curb and channelizes and directs roadway drainage. Curbs are used when there is a need to control roadway drainage or provide a grade separation.



Straight Curb & Gutter, Cecilton, MD

Culverts – A culvert is a storm drain pipe used to carry stormwater under driveways and road crossings. Along with grassed swales and curbs and gutters, culverts are used to solve specific drainage situations.

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Grassed Swales – These are shallow, vegetated channels next to the road surface designed to handle water runoff. Vegetation in the swale catches sediments and slows the runoff allowing it to percolate into the soil. The slope of the swale is critical to its effectiveness and adjacent property owners are typically charged with its maintenance and mowing.



Grassed Swale

Identification Signs – Non-traffic signs that welcome visitors to a community or district help establish identity and communicate a pride of place. They



Identification Sign, Seat Pleasant, MD

do not have to be large but should be of a consistent shape, color, and material if more than one is used.

Excellent identification signs may be found in Kensington, Seat Pleasant, Chesapeake City, and in Chesapeake Beach

Planters and Banners – Sidewalk planters, hanging planter baskets, and pole banners are an excellent way to add color to the street, divert attention from overhead utilities, identify a special district, or advertise events. Care must be taken not to interfere with pedestrian movement along the sidewalk or add safety distractions for drivers.

Planters and Banners may be found along Main Street in Annapolis, St. Michaels, and in Elkton.



Planters and Banners, Hancock, MD

Street Furniture – Benches, waste containers, planters, bollards, pedestrian lighting, and kiosks all help create a walkable street environment by “announcing” to the public that they are welcome and their needs have been considered. These amenities should be high-quality, durable, attractive, easily maintained, and placed in such a way that a harmonious design theme is apparent and adjacent structures are complimented.



Street Furniture, MD 590

Landscaping – Most images of healthy communities include tree-lined streets interspersed with grass and shrubbery. This holds true in



Landscape, Hancock, MD

commercial as well as residential areas. Apart from their physical beauty, these landscaped areas create a friendly, walkable environment by separating pedestrians from cars and slowing driver speeds. The space required for vegetation varies with the type selected; grass or shrubs will require less room than a deciduous tree.

Selecting the proper vegetation is critical – all vegetation should be appropriate for the specific climate where it is to be planted, low maintenance, placed to not uproot curbs or walks, located out of essential sight lines, and selected to not interfere with overhead utility lines.

Excellent Landscaping examples may be found in Hancock, Towson, Landover, and Annapolis

IMPROVING PEDESTRIAN ACCESSIBILITY

Sidewalks – Sidewalks are essential in commercial and residential areas. Even with low vehicle speeds, children, seniors, and people with disabilities cannot walk safely without sidewalks. The Americans With Disabilities Act provides the basic standards for width and accessibility. Items to remember are that two people should be able to walk side-by-side, sidewalks that aren't separated from vehicle travel lanes by green strips (or parked cars) should be wider than the standard, and sidewalks next to fences, walls, or buildings should be wider than above the standard.



Sidewalks, Galena, MD

Curb Ramps –

These provide a smooth and gradual transition between the sidewalk and the road surface and are designed for



Curb Ramp

access for wheelchairs, walkers, and strollers. The Americans With Disabilities Act provides standards for their location and design.

Marked Crosswalks – Marked crosswalks alert drivers that they are approaching an area of pedestrian activity and alert pedestrians to a safe and accessible crossing. The idea is to incorporate a textured or patterned surface which contrasts with the surrounding roadway. Crosswalks can be marked with stripes, colored concrete or pavers, or stamped asphalt. A crosswalk with texture also serves to slow drivers because of its roughness and noise. Mid-block,



Marked Crosswalks, Greensboro, MD

as opposed to intersection, crosswalks may be difficult to justify unless accompanied by flashing lights or signs.

REDUCING AUTO DEPENDENCE

Bus Stop Node – This measure extends the sidewalk into the street and allows buses to pick up and drop off passengers while stopped in the traffic lane next to the node. It provides a transit stop with minimum loss of parking, speeds up the stop because the bus does not have to wait to re-enter traffic, eliminates the lengthy pull-in and pull-out distance for conventional stops, and allows more room for waiting passengers, landscaping, and street furniture. The major disadvantage, of course, is that traffic in the bus lane must stop with the bus or pull into the next lane.

Bus Stop Nodes may be found in Mt. Rainier, Towson, and on Eastern Boulevard in Baltimore.

✓ **LESSON**
**Listen for Opportunities
 That May Not Be Evident
 to the Outsider**

Although SHA is often viewed as the "outsider" in the community, it does have experience that extends to nearly every community in Maryland. Elements may be missing that should be part of the street improvements. Think of what the community may want to build later or that should be built now as part of its contribution to the project (e.g. street furniture, public spaces, sculpture, and water and sanitary service upgrades).

The project in Mt. Rainier on US 1 was also meant to be a civic statement for the community. Listening to its desire for vertical elements to mark the center and create a landmark led to the sculptural forms designed by artists. The sculptures will project vertically from two sides of the roundabout and will be visible as a gateway to be passed through on entering the roundabout from four of the six directions. While safety concerns precluded the roundabout center from housing a sculpture, the community will be served with an alternative that meets its goals.

Bike Lane – This is a portion of the roadway designated by pavement markings and signing for exclusive use by bicycles. A bike lane for one-way movement should be at least four feet wide. A bike lane for two-way traffic should be at least eight feet wide and separated from the vehicle lane with a barrier such as a curb or island. Bike lanes are best provided if the street is commonly used by bicyclists or if it links important bike destinations.



Bike Lane , Cecilton, MD

ANALYZING THE IMPLICATIONS

Remember that improvements are not really improvements if they shift the problem to the next block, make it difficult for businesses to receive goods or customers, or complicate the provision of emergency services. All of the ideas for improvement must be tested. If the solution takes care of the immediate area but creates a problem elsewhere, it is time to rethink the answer.

LOCAL ACCESS

Parking and access for businesses, access for delivery vehicles, snow removal, individual driveways, responsibility for sidewalk maintenance, the location of mailboxes, and dozens of other large and small "access" concerns will arise in the course of the work. There are no standard solutions that will apply in every case, there are only examples of how other communities have dealt with the issues and their experience over time with the results. Photos of specific solutions should be made available to the Task Force and, if

desired, trips to communities with completed projects should be arranged.

LARGE VEHICLES

Because trucks, buses, and many emergency vehicles have large turning radii, care must be taken when reducing curb radii or installing median islands or roundabouts. If the lane widths or turning movements are too restricted, access could be denied to large vehicles. Unless restricted access is the purpose, all turning radii and lane widths should be checked for their ability to accommodate the necessary vehicles. This can be done on the plan drawings with a "turning template" or in the field with a temporarily marked roadway and actual vehicles.

ENFORCEMENT

A carefully designed road should reduce traffic enforcement needs by reducing speeds, clearly identifying parking options, and improving the basic level of safety for pedestrians. A poorly conceived plan could create opportunities for higher speeds, "blind spots" such as fences or shrubs that are difficult for enforcement officials to see behind or gain access to, and confusing parking or access patterns for the local resident. All designs should be studied from a common sense perspective and with the assistance of local public safety officials.

BICYCLISTS

Bicyclists are becoming a vocal force in the design of roadways and many communities are seeking to support increased levels of bicycle use. Bicycle racks, secure storage, wider travel lanes, separate paths, and safe crossing points are all items that may surface in a local project. SHA's policy is to consider bicycles on all roadway improvement projects and to address bicycle needs where it is reasonable and feasible to do so.

MAINTENANCE

Care and maintenance must be built into the design by thinking about types of materials, longevity, ease of maintenance, life cycle costs, local maintenance capabilities, etc. The aim is to ensure that project character is not altered by future “fixes” such as roadway signs, utility upgrades, tree trimming, or maintenance failures. To preserve the design intent of the project from later changes, the following items must be considered from the beginning.

- Material life
- Access
- Equipment needed
- Replacement cost
- Trash removal
- Landscape care and replacement
- Safety and lighting of spaces
- Coordination with public utilities

In Mt. Rainier, the new public areas posed the greatest risk of maintenance neglect. By listening to what the community wanted and giving them responsibility for decisions, project designers were creating a constituency that would become custodians of these public areas. Artists selected to work on the project had experience in appropriate materials and construction for public art that would require little maintenance over time. They also understood how to create using community input and local history to ensure that the community would truly “own” the project and the artwork.

CONSTRUCTION STANDARDS

SHA’s technical staff will ensure that proposed improvements do not interfere with surface drainage patterns, access to underground utilities, and the maximum and minimum grades allowed on roadways.

TEMPORARY INSTALLATIONS

In some cases, it may be appropriate to install temporary improvements to gauge community opinion or to verify that the improvements will produce the desired effect. In North East, for example, temporary striping was placed on the main shopping street to test the value of a tandem parking proposal. Precast concrete curbing, inexpensive planters, pavement markings, and signs can all be used to provide temporary installations.



Mt. Rainier used a bas-relief design to enhance the sidewalk planter walls.

“Don’t be stopped by, It hasn’t been done before.”

STAFF

Federal Highway Administration (FHWA)

CONCEPT PLANS

CHOOSING AMONG ALTERNATIVES

THE PRELIMINARY CONCEPT PLAN

The Preliminary Concept Plan should show the changes proposed for all areas of construction to include:

- Roadway alignment, lane widths, and curb locations with cross-sections
- Sidewalk locations including crosswalks and ramps
- Parking spaces and driveway entrances
- Location of street trees, planting areas, street lighting, special pavement types, and edge treatments along the right-of-way
- Historic preservation elements
- Recommendations for benches, tree grates, trash receptacles, light fixtures, paving materials, and plant materials
- Drainage improvements
- Utility relocations
- Detailed designs for areas of particular concern (e.g. key intersections, town entries, bridges, etc.)
- Features related to the accommodation of current and future land use plans

THE FINAL CONCEPT PLAN

The Final Concept Plan should show the changes proposed for all areas of construction to include:

- Roadway alignment, lane widths, and curb locations with cross-sections
- Sidewalk locations including crosswalks and ramps
- Parking spaces and driveway entrances

- Location of street trees, planting areas, street lighting, special pavement types, and edge treatments along the right-of-way
- Historic preservation elements
- Recommendations for benches, tree grates, trash receptacles, light fixtures, paving materials, and plant materials
- Drainage improvements
- Utility relocations
- Detailed designs for areas of particular concern (e.g. key intersections, town entries, bridges, etc.)
- Construction phasing plans and cost estimates

The Final Concept Plan must have the approval of both aspects of the Task Force – the community members and the technical staff – before recommendation to the elected officials. All project goals and prior commitments should be revisited and reaffirmed before the Final Plan is submitted as the approved product of the Task Force.

MAKING CHOICES

Think about how your project is consistent with the spirit and intent of growth management, rather than just what is legally compliant with its provisions.

- Are we more effectively managing congestion or just trying to build our way out of it?
- Have we re-focused our thinking to manage traffic demand as well as provide additional traffic capacity?
- Have we challenged state and local transportation staffs, consultants and contractors to respond to changing needs?



Archeologists document a mid-1800's carriage stand under Burkittsville's roadbed. Designers reworked plans to feature it in the completed project.

✓ **LESSON**
Design to Support
All Project Goals and
Balance Everyone's Needs

In addition to the goal of safe and efficient traffic movement, the objectives and interests of the community as a whole must be factored into the design process and balanced with the needs of transportation. Whether the interests are improved appearance, access to businesses, or economic revitalization, all participants must realize that the true impact of their work has implications far beyond moving vehicles from one point to another.

- Have we coordinated land use plans and our transportation decisions?
- Have we made our community walkable and bicycle friendly?
- Have we offered different transportation choices in a cost-effective manner?
- Have we fostered opportunities for mixed-use development?
- Have we taken advantage of dense, transit-oriented development around transit stations?
- And, finally, does our project respect the traditions, values, and aspirations of our community?

LOOKING AT STREET CORRIDORS

Land Use – The street and its adjacent land uses are the two structural elements of communities crucial to reconcile neighborhood life with the larger environment. The home, the business, and the school represent a set of necessary human functions and responsibilities while the street gives access to the world beyond these functions and represents the larger complex system in which they are embedded. The proper function of both these realms depends in some part on how the street and its surroundings are related to one another.

The overall arrangement of the functional elements of the street corridor (dwellings, businesses, public buildings, sidewalks, parking spaces, parks, street furniture, etc.) guide the use of the corridor by its residents and visitors and are the proper purview of the users, the community planner, and the political leader. The street itself and the way it functions must complement and reinforce the land use objectives and growth visions of the community. The street must not be viewed as simply another layer of infrastructure, it is a key component in blending and supporting the social and economic functions that line its edges.

Road Surface – The road surface must make it clear who is to use which area and should indicate the transition from public to private areas. In addition, it should help keep car speeds within established speed limits and prompt appropriate driver and pedestrian behavior

Speed Control – Street width, centerline radii of curves, stopping sight distances on hills and curves, and intersection turning radii are all part of what is called roadway geometrics and are the best known form of speed control. Speeds can be greatly reduced through a combination of these features.



Attention should be given to the actual width of unoccupied streets, the practical width when cars are parked, and the remaining width when streets are narrowed by bumpouts, bike lanes, medians or other features. Speed control measures must make allowance for the needs of emergency, sanitation, and delivery vehicles.

Planting – Vegetation can make up part of the “walls, floor, and ceiling” of space along a street. Planting can take on a direct traffic-related function as a gate, a visual narrowing of the space, or as a marker for a change in surface or speed allowed. It can also have a mission in its own right; emphasizing a space or a pattern, visual screening, or simply as a beautiful embellishment to otherwise hard surfaces.

Furniture and Fixtures – The furniture and other equipment of the street scene should first and foremost meet the functional requirements. It must be appropriately designed, resistant to weather, wear, and vandalism. In addition, equipment should be chosen whose form, materials, and colors blend harmoniously into the whole of a particular

area, be it a street or an entire town. The siting of street furniture can help to define the dimensions of the pedestrian zone and be used to create the changes necessary to reduce the speed of cars.



Furniture, Hancock, MD

Signs and Markings – Road markings should be restricted to the minimum required for safety and limit the amount of information that must be absorbed. The primary requirements of clarity, respect, and easy understanding should be matched with sign sizes that agree with the dimensions of the street space, relative roadway speeds, and the road users occupying it.

Lighting – The primary function of lighting is to enable people to see at night so that they may move safely and securely. Lighting should therefore illuminate other road users and the nature and scope of traffic-related arrangements. All lighting decisions must be made with due regard to road function, speeds, users, the nature of the street space and its architecture, and, of course, the budget.

LOOKING AT PEDESTRIANS

The pedestrian environment should be safe. Sidewalks, pathways and crossings should be designed and built to be free of hazards and to minimize conflicts with vehicular traffic and architectural elements.

The pedestrian network should be accessible to all. Sidewalks, pathways, and crosswalks should assure the mobility of all users by accommodating the needs of people regardless of age or ability.

The pedestrian network should connect to places people want to go. The network should provide continuous direct routes and convenient connections between destinations, including homes, schools, shopping areas, public services, recreation, and transit.

The pedestrian environment should provide special places. Good design should enhance the look and feel of the pedestrian environment. This environment includes open spaces such as plazas, courtyards, and squares, as well as the building facades that give shape to the space of the street. Amenities such as street furniture, art, plantings, and special paving, along with historical elements and cultural references help promote a sense of place.

The pedestrian environment should allow a variety of activities. It should be a place where public activities are encouraged. Commercial activities such as dining, vending, and advertising may be permitted when they do not interfere with safety and accessibility.

LOOKING AT SIDEWALK CORRIDORS

Pedestrian facilities are more flexible than roadways in that they do not have to be as consistent and predictable as facilities handling motor vehicles. However, certain guidelines should be followed.

Accessibility – The sidewalk corridor should be easily accessible to all users, whatever their level of ability.

Adequate Travel Width – In most areas, two people walking together should be able to pass a third person comfortably, and different walking speeds should be possible. In areas of intense pedestrian use, sidewalks should be wider to accommodate the greater volume of walkers.

“SHA lives with a project for five or six years. We live with it for a hundred. That’s why we care so much about it.”

RESIDENT
St. Mary’s County

CONCEPT PLANS

Safety – Sidewalk corridors should give pedestrians a sense of safety and predictability. Sidewalk users should not feel threatened by adjacent traffic.

Continuity – The walking route should be obvious and not require pedestrians to travel out of their way unnecessarily.

Landscaping – Plantings and street trees in the corridor should create desirable microclimates and contribute to the psychological and visual comfort of sidewalk users.



Landscaping, Frostburg, MD

Social Space – Sidewalk corridors should provide places for standing, visiting, and sitting. The corridor should be a place where children can safely participate in public life.

Quality of Place – Sidewalk corridors should contribute to the character of neighborhoods and business districts, and strengthen their identity.

LOOKING AT STREET CORNERS

Clear Space – Corners should be clear of obstructions, and have enough space to accommodate the typical number of pedestrians waiting to cross. They should also have enough room for curb ramps, for transit stops where appropriate, and for street conversations.

Visibility – It is critical that pedestrians on the corner have a good view of the travel lanes and that motorists in the travel lanes can easily see waiting pedestrians.

Legibility – Symbols, markings, and signs used at corners should clearly indicate what actions the pedestrian should take.

Accessibility – All corner features, such as ramps, landings, call buttons, signs, symbols, markings, textures, etc. must meet accessibility standards.

Separation from Traffic – Corner design and construction must be effective in discouraging turning vehicles from driving over the pedestrian area.



Sharpsburg, MD

LOOKING AT CROSSWALKS

Clarity – It should be obvious where to cross and easy to understand possible conflict points with traffic.

Visibility – The location and illumination of the crosswalk must allow pedestrians to see and be seen by approaching traffic.

Appropriate Intervals – There should be a reasonable match between the frequency of good crossing opportunities along a street and the potential demand for crossing.

Short Wait – The pedestrian should not have to wait unreasonably long for an opportunity to cross

Adequate Crossing Time – The time available for crossing accommodates users of all abilities.



Pedestrian crossing, Hancock, MD

Limited Exposure – Conflict points with traffic are few and the distance to cross is short or is divided into shorter segments with refuges.

Continuous Path – The crosswalk is a direct continuation of the pedestrian’s travel path.

Clear Crossing – The crosswalk is free of barriers, obstacles, and hazards.

LOOKING AT BICYCLES

Bicycle facilities should be designed and built to meet the needs of the bicyclists and the community. Bicycle facilities include shared use lanes, shoulders, dedicated bicycle lanes and off-road shared-use pathways. Shared-use travel lanes and shoulders should be considered as a minimum on all roadway improvement projects. Dedicated bicycle lanes should be considered where land use supports, or is anticipated to support, significant bicycle travel. Dedicated bicycle lanes are especially important where connections can be

made to transit, schools and major trails systems.

In most cases, on-road bicycle facilities will provide access for cyclists as well as meet the needs of the community. In some cases however, the community may wish to narrow the roadway to provide a scale that better fits the community, to provide traffic calming or to reduce the space that pedestrians must travel to cross the roadway. In those cases an off-road shared-use pathway may be more appropriate. These pathways can parallel the roadway like a sidewalk or can be within their own right-of-way on a separate alignment. In other cases, it may be better develop alternate on-road routes for bicycle access.

The bicycle network should connect to places people want to go. The network should provide continuous direct routes and convenient connections between destinations, including homes, schools, shopping areas, public services, recreation and transit.



Dedicated bicycle lane.



Regional trails should be accessible to nearby households and businesses via a bicycle compatible road network.



Traffic calming, bicycle compatible design, Takoma Park, MD

✓ **LESSON**
**Be Ready to Be Flexible in
 Your Design Solutions**

Remember that even General Custer had a plan. Don't fall in love with one alternative. When you put together a diverse professional team, when you emphasize communication, and when you truly "think beyond the pavement," be prepared for surprises and be ready to respond. All projects are unique and uniqueness should be valued.

LOOKING AT PATHWAYS

All pedestrian connections do not have to be an urban standard of concrete curb and sidewalk where the terrain is steep, the right-of-way is constrained, or significant trees could be affected. The selective use of pathways in alternative materials and non-typical locations allows the addressing of constraints in the overall system so that opportunities for public pedestrian access are not lost.



Chesapeake & Ohio Canal Tow Path

Security – Stair and path placement, landscaping, and lighting all should contribute to make walkers feel safe.

Public Character – It should be clear that the pathway is a public right-of-way or easement, and that the public is welcome.

Appropriate Accessibility – The facility should be as accessible as possible given the constraints of topography. Where full accessibility is not possible, alternate continuous passages should be available.

Durability – Surface materials should be stable and provide a reasonable walking surface over the course of the maintenance cycle.

Compatibility – The design of pathways should respect existing conditions and the environment.

Cost Effectiveness – Pathways installed as alternative interim improvements adjacent to roadways should cost less to design, construct, and maintain than a standard sidewalk and curb.

REACHING CLOSURE

PUBLIC MEETINGS

Public meetings are one way to convey information to the broader community and gather input. These meetings can be held at any point in the concept plan development process but are usually more productive when a fully-realized concept has been prepared and deemed acceptable for review by the community. The plans may contain options or even undecided issues if the Task Force is unable to decide or wishes community input on particular aspects of the project.



Public meetings enable concept review and discussion

If opinions differ and emotions run high, public meetings can become confrontational and damage the credibility of the entire planning process. To be prepared for this possibility, it is very important that the meeting be managed by the local members of the Task Force and that they be well versed in the reasons (both technical and non-technical) for the decisions proposed. SHA staff can act as backup on technical and regulatory issues but the plans must be presented as what they are – a product of the joint work of community members and SHA.

OPEN HOUSES

An Open House is an opportunity for all community members to “drop-in” and view and discuss plan proposals with the Task Force in a one-on-one situation. They can be held on a workday evening or on a weekend or both. The aim is to accommodate the schedules of as many as possible by offering an extended period to examine the plans in an informal setting. This approach avoids confrontations and grandstanding, allows people to identify issues of concern to them, take as long as they want to look at materials, and ask questions at any time.

Open Houses can be useful at the beginning of the process to identify issues and concerns, when alternatives are being considered, and when a proposed final concept has been developed. They seem to be most successful, however, when there are actual plans to consider.

An Open House should be arranged and hosted by the Task Force. Task Force members should be present, visible, and active at the event. The fact of community involvement in the roadway improvement process must be apparent.

SURVEYS

The community may also be surveyed to determine support for a proposed plan or to select between alternative plans. The key consideration is not how the community is surveyed or how support is measured, but rather to ensure that all residents, businesses, and interested parties have the opportunity to be involved and to influence the plan.

A survey should not be a referendum but a process of consensus-building. It is preferable to choose a plan that is supported by a close majority and not strongly opposed by anyone than a plan that is preferred by 90% of the community but strongly opposed by the remaining 10%. A small amount of strong opposition can defeat an otherwise well-supported plan.

PUBLIC HEARINGS

A Public Hearing is the official corollary of the public meeting. It is presided over by the community’s elected officials and is the setting in which the town leaders gather information and opinion prior to their vote on the proposed plans.

CONCEPT IMPLEMENTATION



6

TURNING THE CONCEPT INTO REALITY

IMPLEMENTING

SHA'S ENGINEERING DESIGN AND CONSTRUCTION PROCESS

SHA's funding and construction schedule will be determined after the Task Force has developed the Concept Plan and secured the approval of the community. The overall approach is to develop a concept; prepare the engineering design, budget, and schedule; and execute.

It is not necessary for local communities to become expert in SHA's engineering design process, it is enough to say that it is complex, thorough, and schedule-driven. What communities should understand is that their participation in the larger process does not end with preparation of the Concept Plan. SHA will keep the initial Task Force or community officials abreast of engineering design progress, the overall schedule, proposed refinements, and potential construction impacts by including the community in its engineering design milestone reviews. In return, the community must see that the approved Concept Plan is understood and adhered to and that project goals are not undermined by time, staff changes, or convenience.

Coordination in the design and construction process is not simple and there is no manual for its management. But experience shows that there are several areas where the community can make a real contribution to a smooth project.

- There will be noise, there will be dust, and there will be disruption of traffic and business. Neither the community nor SHA should try to hide or gloss over the real difficulties inherent in road construction.
- If there are project elements (e.g. water and sewer installation or reconstruction, utility undergrounding, pedestrian lighting) that are the financial and construction

management responsibility of the community, the local jurisdiction must assure that these elements are integrated with SHA's overall construction process.

- The "Maintenance of Traffic" plan which describes traffic routing and closures during construction should be studied carefully by the community and suggestions made to SHA for its improvement.
- The community should request a schedule of when work will be performed on or in front of individual properties so that owners may make suitable preparations.
- Regularly scheduled open meetings should be held to discuss progress and problems with the construction work. To further this type of contact, the community should provide a conveniently located site for SHA's local construction office.
- Communities should consider hiring and providing their own construction oversight to assist in coordinating activities, providing monitoring, and acting as liaison between individual property owners, the community, and SHA.
- Night work can be disruptive, but can speed project completion significantly.

LETTERS OF PERMISSION

SHA needs property owner permission to perform work "behind the curb." In other words, the state assumes that it does not own or have a right-of-way that extends beyond the roadway curb to the adjacent building or lot. To install or improve a sidewalk, for example, permission must be granted by the affected property owner. The device used is a standard form that follows federal and state guidelines for language and content and is provided by SHA.



Construction underway in Frostburg.



Reisterstown business owner makes storefront improvements as part of Baltimore County's Community Revitalization Program.

All owners whose property will be affected by improvements must grant a Letter of Permission to allow the work to proceed. If a sidewalk is to be placed in front of ten properties, for example, and only nine owners grant permission, the sidewalk will not be constructed in front of the property denying permission and a decision would have to be made whether to proceed with the sidewalk at all if it will have a missing segment.

The local community is responsible for obtaining the necessary Letters of Permission prior to construction. A right-of-way agent is available in each SHA District to assist with forms, mailings, interpretations, and general guidance.

Most communities have had little difficulty with gaining the necessary permissions. They know which affected owners may have reservations, they have personal knowledge of the owner and the property, and as a result are often more convincing than SHA personnel. When difficulties do arise, the appropriate SHA District can provide advice and assistance.

An alternative to the Letter of Permission requirement is passage by the community of a General Sidewalk Ordinance that allows for construction or replacement of sidewalk; alteration, repair, or maintenance of drainage structures; landscape installations and installations of streetlighting conduit.

FUNDING CONSTRAINTS AND OPPORTUNITIES

SHA began to construct sidewalks as part of any highway construction or reconstruction project where they are indicated in local master plans in 1996. This policy was expanded to allow funding of a broader range of streetscape amenities including street trees, brick or brick-like accents, decorative crosswalks, and improved signposts. Since the original guidelines were established, the interpretation of

what is allowed for SHA funding has evolved based upon the unique situations encountered in a variety of communities. The evolution has been driven by the desire of SHA and local jurisdictions to respect and enhance local character and build an impetus for continued local revitalization efforts. This practice has lent flexibility to the planning and design of projects and improved SHA's ability to respond to unique local needs and plans. It has also raised questions about consistency in the use of highway funds in different projects.

To resolve the questions about consistency, the following funding policies have been developed. They are designed to recognize that communities are always different, that revitalization efforts vary, but that a uniform set of funding policies will clarify local and SHA responsibilities and smooth the planning and design process.

BRICK SIDEWALKS/GRANITE CURBS

- SHA will provide brick/brick-like accenting and will replace brick sidewalks, in-kind, if requested by the property owner. In those instances where the use of brick/brick-like sidewalks are considered a contributing element to a historic or historic eligible district, SHA will provide 100% funding for design and construction if requested by the local jurisdiction. SHA will make the determination of whether the uses of these elements are a contributing element. In all other instances, local jurisdictions are responsible for all additional costs to upgrade to brick sidewalks.

Local jurisdictions will be required to pay the difference in cost between concrete curb/curb and gutter and new granite curbs. Where existing granite curb exists, SHA will, if feasible, reuse this curbing or will replace the existing granite curb with new granite curbing.

LANDSCAPING ON PRIVATE PROPERTY

- SHA will design and install landscaping using customary and standard practices on private property as part of a mutually-approved concept plan provided maintenance is provided by the local jurisdiction.

ACQUISITION OF PROPERTY RIGHTS

- SHA will acquire land in fee simple, perpetual easement, or revertible easement for new structures which must be maintained by SHA personnel. These structures include retaining walls, drainage outlets, traffic signals, and utility poles.
- SHA will provide payments for property that must be moved due to a streetscape project.
- Local jurisdictions will ensure that all other property rights are secured prior to funding for construction by one of two methods:
 1. *A General Sidewalk Ordinance* that allows for construction or replacement of sidewalk; alteration, repair, or maintenance of drainage structures; landscape installation; and installation of street lighting conduit.
 2. *Securing Letters of Permission* from 100% of the property owners with real property adjoining the project limits.

STREET FURNITURE

- The design and construction of bus shelters, benches located at bus stops and transit stations, and bike racks are acceptable for SHA funding. The design and construction of bus shelters shall follow the criteria established by the Maryland Transit Administration. The design and construction cost of all other street furniture (e.g. trash receptacles, magazine/newspaper dispensers, benches not associated with transit stops) is the responsibility of the local jurisdiction. In all cases, SHA will not assume responsibility for maintenance.

GATEWAY SIGNAGE

- SHA will provide funding for the design and construction of gateway signage up to \$10,000 per sign along a state highway for the sign and associated landscaping for each state highway approach to the locality. The Office of Traffic and Safety must approve the location and sign type. Electrical service costs for lighting, if applicable, and all maintenance is the responsibility of the local jurisdiction.

PEDESTRIAN LIGHTING

- SHA may participate in the design and construction of pedestrian lighting systems that are to be included as part of an existing highway improvement, streetscape, revitalization project where sidewalks are either present or to be installed. The following criteria will be considered:
 1. The system is within ½ mile of a major transit center of ¼ mile or a transit stop or is along a connection between two or more transit centers.
 2. The system is in a designated urban revitalization area.
 3. The system is within ½ mile of an educational or similar facility that generates significant pedestrian traffic during hours of darkness.
 4. The total number of pedestrians and/or bicyclists within any one hour period of darkness.
 5. The system is in a commercial area with significant nighttime activities.
 6. Pedestrian safety and security are issues.
- SHA will assume some or all of the costs associated with the design and construction of pedestrian lighting systems installed in one of its transportation-related projects. However, due to the wide range of available styles, materials, poles, and fixtures, SHA may establish a dollar limit for participation in the construction. The local jurisdiction will assume costs above this limit when the overage is a result of the jurisdiction's selection of

*Reisterstown*

✓ LESSON**Look For Partners, Act As One, and Seek Spinoffs**

You have to look for friends of the project; its enemies will find you no matter what! Expand the resources available to your project by looking outside the walls of SHA. Leverage your efforts into complementary “beyond the pavement” projects as well as “beyond the pavement” thinking. Get to know the resources of your potential partners: the planning office, the chamber of commerce, the neighborhood associations, the local sidewalk ordinance, and other state agencies with funding or a local presence.

In every successful project, the political leaders, citizen supporters, citizen dissenters, and design team members all worked in the same arena with an understanding that the process would provide the vehicle to affect the design and construction schedule. You cannot act in a vacuum and expect resounding success.

A good example from Hancock is the partnership to obtain Letters of Permission, a key item on the critical path to construction. The Hancock team pulled in Rails to Trails, a County elderly housing project, the construction of a park, and new water and wastewater lines using non-transportation funds. Town funds were found to include new streetlights and parking meters.

upgraded fixtures or a non-standard application of lighting elements (e.g. reduced spacing between fixtures).

- The local jurisdiction will assume operational and maintenance costs for pedestrian lighting. This includes energy costs, routine maintenance, damage repair, and replacement.

EXISTING UNDERGROUND WATER AND SEWER SYSTEM UPGRADE, REPAIR, OR REPLACEMENT

- SHA does not participate in the replacement, upgrade, or repair of water and sewer systems, except as required by “prior rights” due to impacts of the highway improvement project. SHA will proceed beyond the concept development phase of a highway improvement project only if design funding has been secured by the local jurisdiction for any requested utility improvements. Construction funding for the highway project will not be provided unless the local jurisdiction has secured construction funding for its utility improvements.

REPLACEMENT OF OFF-STREET PARKING

- SHA will fund the design and construction of off-street parking provided the following conditions are met:
 1. The relocation of on-street parking to an off-street site provides an operational or safety benefit along a state highway within the project’s limits by eliminating on-street parking.
 2. The parking will be for public use or replaces a loss of private (residential) parking.
 3. The local jurisdiction has acquired the right-of-way required.
 4. The local jurisdiction agrees to be responsible for maintenance.
 5. The number of off-street parking spaces is not greater than the number of on-street spaces being replaced. Local jurisdictions will be financially responsible for any additional parking spaces designed and constructed.

6. Local jurisdiction and SHA joint use Park-and-Ride lots will be managed through a Memorandum of Understanding.

PLANT IRRIGATION

- SHA will construct plant irrigation for roadside and median landscaping provided local jurisdictions agree to provide water services and will maintain and pay all water fees.

MAINTENANCE BEYOND THE CURB

- It is the responsibility of the local jurisdiction to maintain all improvements beyond the curb. This includes sidewalks, landscaping, street furniture, gateway signage, and roadside lighting not required by SHA. Funding of a project beyond the concept development phase will be contingent upon a written maintenance agreement specifying maintenance responsibilities being executed between SHA and the local jurisdiction.

TRAFFIC BARRIERS

- SHA will replace galvanized Traffic Barrier W-Beam in need of repair and will provide the “Park Service Brown” color adjacent to State and National Parks and historic districts.

OTHER AESTHETIC TREATMENTS

- SHA will not participate in the design or construction of artwork, clocks, and interpretive plaques, but will facilitate their construction as part of its project when funded by another party except as required by NEPA Section 106 cultural resource mitigation requirements.

NON-STATE HIGHWAY/LOCAL ROAD IMPROVEMENTS

- SHA will be responsible for engineering and construction costs to make engineered tie-ins or transitions to local streets. Any work beyond SHA engineered tie-ins or transitions will be the cost responsibility of the local jurisdiction.

REFERENCES & DISTRICT CONTACT INFORMATION

REFERENCES

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January, 1999

Thinking Beyond the Pavement
Maryland State Highway
Administration Implementation
Workshop
November 2-3, 1999

Traffic Calming
Citizens Advocating Responsible
Transportation
Ashgrove, Queensland
Australia
1989

And the Maryland towns and
communities of Church Hill,
North East, Rock Hall, Pumphrey,
Middletown, Mt. Rainier, Greensboro,
Hancock, Lexington Park, Catonsville,
Bel Air, Reisterstown, Annapolis,
Brooklyn Park, Takoma Park,
Denton, Hagerstown, Frostburg,
Burkittsville, Brunswick, Towson,
Cumberland, Langley Park, and
Oakland.

DISTRICT PHONE NUMBERS

SHA DISTRICT 1
**Dorchester, Somerset, Wicomico,
Worcester Counties**
1-800-825-4742
410-677-4000

SHA DISTRICT 2
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Queen Anne's, Talbot Counties**
1-800-637-9740
410-778-3061

SHA DISTRICT 3
**Montgomery,
Prince George's Counties**
1-800-749-0737
301-513-7300

SHA DISTRICT 4
Baltimore, Harford Counties
1-800-962-3077
410-321-2800

SHA DISTRICT 5
**Anne Arundel, Calvert, Charles,
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1-800-331-5603
410-841-1000

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**Allegany, Garrett,
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