

## **6.0 SUMMARY AND COMPARISON OF IMPACTS**

This chapter provides a summary level comparison of the potential impacts of implementing each of the proposed alternatives described in Chapter 2. The comparison of impacts is presented to aid the decision makers and public in understanding the potential environmental consequences of proceeding with each of the alternatives under consideration.

### **6.1 UNAVOIDABLE ADVERSE IMPACTS**

A number of unavoidable adverse effects that would occur if the proposed actions were implemented based on the analysis conducted for this document. Adverse impacts that cannot be avoided are described below. Each of these effects is discussed in detail in Sections 4.1 through 4.13. Many adverse effects would be avoided through mitigation. None of these effects from any of the build alternatives are considered to be significant.

#### **6.1.1 Land Use and Zoning**

No unavoidable adverse impacts are identified from the No Action/No Build Alternative or any of the five build alternatives, changes in land use would not occur (see Section 4.2).

#### **6.1.2 Farmlands**

There are no farmlands in the project area; therefore, this topic has been dismissed.

#### **6.1.3 Aesthetics and Viewsheds**

If the No Action/No Build Alternative were chosen, visual resources within Klingle Valley would continue to decline, and the overall appearance and aesthetic value of the area would continue to degrade (see Section 4.3).

The proposed new alignment of Klingle Road (regardless of the build alternative implemented) would alter the view during the construction phase of the project. The operation of Klingle Road would have adverse impacts to visual resources for some user groups with the reintroduction of cars into the valley. To some user groups, re-opening Klingle Road would have beneficial impacts to the visual resources of the valley as the current degraded road is rebuilt and Klingle Creek is restored.

#### **6.1.4 Topography, Geology, and Soils**

The soils under and adjacent to the original alignment of Klingle Road have already been developed with the original roadbed and those utilities buried beneath it and the soils have also been previously disturbed and/or altered. If the No Action/No Build Alternative were chosen, erosion would continue unabated along Klingle Creek and Klingle Road, and would continue to have significant adverse impacts.

The reconstruction of Klingle Road (regardless of the build alternative implemented), the installation of the new stormwater system, and restoration of Klingle Creek could temporarily increase erosion during construction activities. However, construction would be subject to best management practices, temporary erosion and sediment control plans, which would help minimize that impact. None of the build alternatives are expected to cause significant adverse impacts to topography, geology, or soils. There would be no unavoidable adverse impacts or alterations to topography, geology, or soils from the operation of any of the build alternatives.

### **6.1.5 Biological Resources**

During the construction phase of any build alternative, there is a reasonable possibility that up to 40 trees, along with other vegetation, could be lost within and adjacent to the ROW. These losses could occur from directly removing the tree for construction or safety purposes, or indirectly as trees are inadvertently damaged from construction activities. Mitigations would be initiated to minimize the total number of trees lost to the greatest extent possible.

The No Action/No Build would result in the continued loss of topsoil throughout Klingle Valley, which would adversely impact native vegetation. In addition, the loss of large diameter trees would continue along Klingle Creek and some of the steeper areas of the valley as soil continue to be eroded from around the base of the trees, causing them to become unstable and fall.

The No Action/No Build Alternative would result in the continued uncontrolled stormwater runoff and associated erosion of stream banks and soil in the valley would continue to degrade wildlife habitat. However, adverse impacts to wildlife species in the valley are not expected to be substantial. Wildlife species that utilize Klingle Valley are typically comprised of species that are adapted to the urban environment and existing conditions in the valley. Much use by wildlife in the valley is transient in nature. If habitat conditions in the valley bottom continue to degrade as a result of uncontrolled stormwater runoff, many species that utilize the valley could be displaced, and the loss of this habitat could compromise the integrity and diversity of local wildlife populations.

There would be some loss of nesting habitat as a result of the loss of trees during construction. Loss of this habitat is expected to be greater under Alternatives D1 and D2 as more trees are expected to be lost (see Figure 4-2). This loss of habitat however, is not expected to be great because of the abundant unaffected habitat in and around the project area and the fact that mitigation measures would be implemented that would minimize the loss of trees to the greatest possible.

As there is a potential for increased erosion from the construction phase of any of the Build Alternatives, there is the potential for adverse impacts to aquatic organisms in Klingle Creek and Rock Creek from increased sedimentation. These impacts would be mitigated through best management practices and temporary erosion and sediment control plans. Operational impacts aquatic organisms from any of the build alternatives would be beneficial, as the amount of sediment entering the watershed would be greatly diminished, and habitat improved.

### **6.1.6 Water Resources**

For the No Action/No Build Alternative there would continue to be long-term adverse impacts to water resources, as erosion would continue unimpeded throughout Klingle Valley.

For the build alternatives, constructing the roadway would increase short-term sediment yield over existing conditions. Removing existing road surface would disturb existing conditions, increasing the short-term sediment yield and impacting local and, to a lesser extent, regional water quality. Using BMPs and other measures discussed in Chapter 3 will reduce this impact.

For the five build alternatives, no adverse unavoidable long-term impacts would occur following implementation of BMPs (see Section 4.6).

### **6.1.7 Wild and Scenic Rivers**

There are no rivers in the project area designated as “Wild and Scenic”; therefore, this topic has been dismissed.

#### **6.1.8 Coastal Barriers**

There are no coastal barriers in the project area; therefore, this topic has been dismissed.

#### **6.1.9 Coastal Zone Impacts**

There are no coastal zone areas in the project area; therefore, this topic has been dismissed.

#### **6.1.10 Transportation**

Any unavoidable adverse impacts identified from the No Action/No Build Alternative or any of the five build alternatives would be so small that they would not be noticeable. Overall changes in transportation would be beneficial (see Section 4.7).

#### **6.1.11 Cultural Resources**

Adverse effects to the historic retaining walls would occur under the No Action/No Build Alternative as no stormwater would continue to undermine the existing retaining walls, weakening their foundation, and their structural integrity.

Adverse effects to the historic retaining walls could occur from the construction phase of all five build alternatives (see Section 4.8). Mitigations used to minimize these impacts include utilizing similar materials to construct new retaining walls, or where possible, repair old retaining walls. In addition, unavoidable adverse impacts could occur to yet discovered prehistoric archaeological sites that may occur within Klingle Valley from construction activities and activities associated with the restoration of the Klingle Creek. These impacts would be avoided through a systematic archeological survey prior to the start of any construction activity.

No adverse impacts to cultural resources are expected from the long-term operation of any of the build alternatives.

#### **6.1.12 Air**

After implementing construction mitigation measures, no further adverse impacts were identified. As a result of implementing any of the five build alternatives, no significant adverse impacts to air quality. While there would be slight increases to local air pollution, they would all be well below NAAQS Standards (see Section 4.9). There would be no unavoidable impacts to air quality under the No Action/No Build Alternative.

#### **6.1.13 Noise**

No unavoidable adverse impacts are identified from the No Action/No Build Alternative. Under this alternative, noise levels are expected to remain the same.

Under any of the five build alternatives, there would be slight increases in noise levels from both the construction phase and the operational phase of the project, but these increases are not expected to be very great, and still fall below current noise level standards (see Section 4.10).

#### **6.1.14 Socioeconomics**

No unavoidable adverse impacts on population, employment, income, social conditions, minority or low-income populations are expected from any of the build alternatives or from the No Action/No Build Alternative. There would be no unavoidable adverse impacts to socioeconomic issues from the implementation of any of the build alternatives.

### **6.1.15 Relocation**

Under any of the proposed alternatives (No Action/No Build, B1, B2, C (Preferred), D1, and D2) there would never be a need for the relocation of individual or families; therefore this topic was dismissed from further consideration.

### **6.1.16 Infrastructure**

Implementation of the No Action/No Build Alternative would see the continued degradation of the currently nonfunctional stormwater sewer system that runs adjacent to Klingle Road. There would likely be no adverse impacts to other utilities that run beneath Klingle Road from this alternative.

No unavoidable adverse impacts to infrastructure are identified from any of the five build alternatives, and only beneficial impacts are expected (see Section 4.12).

### **6.1.17 Energy**

Implementation of any of the five build alternatives would see a slight increase in energy needs; however, these increases would not be expected to cause any noticeable impacts.

### **6.1.18 Safety**

Implementation of the No Action/No Build Alternative would result in the continuation of unsafe conditions along the current road alignment and further deterioration of the current road surface. The area is closed to the public and people who use this area for recreation are considered trespassers. Those people who chose to trespass and ignore warning signs and circumvent the barriers that close the road to public use would continue to be at risk.

Adverse impacts to non-motorized park users would occur to varying degrees with any of the build alternatives. Alternatives B2 and D2 would provide users with a four-foot wide trail that runs along Klingle Road. This trail would provide users with a safe corridor for different recreational activities without there being significant conflict with traffic. However, for those alternatives that do not include a recreational path (Alternatives B1, C, and D1), conflicts could potentially arise between automobiles, pedestrians, and cyclists. These conflicts are not expected to have an appreciable effect on public health and safety. People throughout the city currently bike and jog on public roadways without much adverse impacts to public safety. In addition, those people driving on Klingle Road would be restricted by slow speed limits, which would provide both driver and recreational user more reaction time to avoid an accident.

Beneficial impacts would occur as the current hazards found within Klingle Valley are reduced (see Section 4.13).

### **6.1.19 Hazardous Materials**

No unavoidable adverse impacts are identified from the No Action/No Build Alternative or any of the five build alternatives (see Section 4.14). The task of abating lead contaminated soils from underneath Glover Bridge would take place regardless of which Alternative is selected.

### **6.1.20 Conclusion**

The proposed project would be beneficial to residents and local commuters by improving safety, and enhancing local circulation. Erosion throughout Klingle Valley would be abated, which would have long-term beneficial impacts to local vegetation, water quality, and aquatic organisms. To some, however, the

implementation of any of the build alternatives would not be beneficial. Opening the road would diminish the park experience of those people who currently use the area for jogging, bicycling, dog walking, and to enjoy quiet and solitude of a closed Klingle Road.

## 6.2 CUMULATIVE IMPACTS

The Council on Environmental Quality (CEQ) regulations, which implement the National Environmental Policy Act of 1969 (42 USC 4321 *et seq.*), require assessment of cumulative impacts in the decision-making process for Federal projects. Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or nonFederal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative impacts occur as a result of the combined effects of several proposed project actions that may take place in the project area before, during or after the project timeframe. The sum total of past development within areas in and around Klingle Valley and the Metro Washington D.C. Area, over the years, resulted in substantial changes in the environment and numerous environmental impacts to visual resources, air quality, biological resources, hydrology, noise, and, traffic. The discussions regarding affected environment provided throughout Chapter 3 help reflect the cumulative impacts associated with previous development in the region. Several projects and plans have been identified and included in the evaluations of current and reasonably foreseeable future cumulative impact evaluations.

The study area for cumulative impacts is dependant upon the resource topic. For example, hypothetically, improvements to water quality within Klingle Creek could have beneficial cumulative impacts with water quality improvement projects occurring within the Chesapeake Bay Watershed. Conversely, impacts to soils within Klingle Valley would not likely have any cumulative impacts from projects occurring within the general vicinity of Klingle Valley.

These projects and plans include:

- **A Transportation Vision, Strategy and Action Plans**

The District of Columbia is required by federal regulations to have a long-range transportation plan and to update the plan regularly. The District chose to meet this requirement by developing a vision and strategic plan for developing a transportation system that would support the city. A Transportation Vision, Strategy, and Action Plan for the Nation's Capital was published in 1997.

The plan set a list of proposals for the transportation system aimed at enhancing the Districts' quality of life and its attractiveness for residents, business and visitors, these include:

- Develop sufficient and consistent funding to sustain a world-class infrastructure and an exemplary multi-modal project planning and institutional coordination process.
- Improve the efficiency, safety and attractiveness of the existing transportation system through improved maintenance, streetscaping, and signage.
- Focus transit investment on internal circulation to provide City residents and visitors with improved alternatives to the automobile.
- Reduce the impacts of suburb-to-City travel on District residents by intercepting automotive traffic at key locations and providing excellent alternatives to City driving.
- Promote business in the District by addressing goods movement through improved loading facilities and by improving rail as an alternative to moving goods into and out of the City.

- Develop nontraditional “signature” transportation for the District, including a water-taxi system, light rail, and a world-class bicycle transportation network.

The 1997 plan also included recommendations on improving signage and traveler information, public and tour bus parking, light rail, Metrorail and bus and fare structure, airport and waterway connections, bicycle and pedestrian movement, truck and rail movement and expanded multi-modal funding.

- **Rock Creek & Potomac Parkway and Beach Drive**

The NPS initiated in November 2004 a project to reconstruct and rehabilitate the Rock Creek & Potomac Parkway from P Street to Calvert Street and the entire length of Beach Drive. The roadways will be repaved, intersections improved and new curbs and gutters installed as needed.

- **Rock Creek Park and Rock Creek and Potomac Parkway General Management Plan**

Rock Creek Park and the Rock Creek and Potomac Parkway are popular units of the national park system that are heavily used by the public. This use places demands on park personnel and facilities to protect resources and maintain a suitable visitor experience. Use and associated demands are expected to increase in the future. A coordinated, integrated plan is required by the National Park Service (NPS) to guide park management to best meet the multiple demands being placed on the area. Some of the future visitor experience, natural resource, and cultural resource conditions of the park and parkway are specified in law and policy. Others must be determined through planning.

The central issue for general management planning in Rock Creek Park is how to meet the often-conflicting purposes of protecting the scenic, natural, and cultural resources of the park, while concurrently providing for appropriate public use of these resources. This issue is complicated by the location of Rock Creek Park within a major metropolitan area. As a result of its location, the park has many users, some of whom hold widely varying opinions about its optimal use. The General Management Plan / Environmental Impact Statement: Rock Creek Park and the Rock Creek and Potomac Parkway will be the basic document for managing Rock Creek Park and the Rock Creek and Potomac Parkway. The purposes of the general management plan are to:

- Specify resource conditions and visitor experiences to be achieved in Rock Creek Park and the Rock Creek and Potomac Parkway; and
- Provide the basic foundation for decision-making regarding the management of the park and parkway.

The plan represents an agreement by the National Park Service with the public on how the park and parkway will be used and managed. The general management plan does not propose specific actions or describe how particular programs or projects should be ranked or implemented. Those decisions will be addressed during the more detailed planning associated with strategic plans, annual performance plans, and implementation plans.

- **Stream Restoration Activities in Rock Creek Park**

Through the cooperative efforts of the National Park Service, the Maryland State Highway Administration, the Federal Highway Administration, the Virginia Department of Transportation, the District of Columbia Department of Health- Fisheries Division and the Smithsonian National Zoological Park efforts are currently being made to restore upstream fish migration in Rock Creek. These restoration efforts include the removal of abandoned fords and sewer lines, modification of existing fords, creation of natural pools and the construction of a “fishway” at Peirce Mill Dam. All of the construction projects will be completed “in-stream” using a combination of heavy equipment and manual labor.

This enhancement activity is a portion of the environmental mitigation plan for the Woodrow Wilson

Bridge Project. This and other projects in Maryland and Virginia are intended to offset environmental impacts to natural resources associated with construction of the new Woodrow Wilson Bridge and its contributing interchanges.

#### **6.2.1 Analysis of Cumulative Impacts for Land Use and Zoning**

The reopening of Klingle Road will not likely have any considerable cumulative impacts to land use or zoning as they relate to development and development patterns. The 0.7-mile length of Klingle Road ROW affected by the proposed alternatives is surrounded by roughly 12-acres of Rock Creek Park, which is administered by the Nation Park Service. As long as this land continues to be administered by the National Park Service, it will be protected from future development. As stated in the 1890 legislation establishing Rock Creek Park, this specifies that the park is to “provide for the preservation from injury or spoliation of all timber, animals, or curiosities within said park, and their retention in their natural condition, as nearly as possible.” In addition, part of the park’s stated purpose is to “...preserve and perpetuate for this and future generations the ecological resources of the Rock Creek valley within the park in as natural a condition as possible, the archeological and historic resources in the park, and the scenic beauty of the park.”

In addition, because the areas in the immediate vicinity of Klingle Road and outside of the boundaries of Rock Creek Park are already close to complete buildout, there would be little if additional opportunities for any further development that would have any cumulative impacts to Klingle Road.

#### **6.2.2 Analysis of Cumulative Impacts for Farmlands**

There are no farmlands in the project area; therefore, there would be no cumulative impacts.

#### **6.2.3 Analysis of Cumulative Impacts for Aesthetics and Viewsheds Resources**

The reopening of Klingle Road will likely have beneficial cumulative impacts to the visual resources of the Klingle Valley. Rock Creek Park and Rock Creek and Potomac Parkway General Management Plan were considered in relation to potential cumulative impacts associated with the proposed project. The central issue for general management planning in Rock Creek Park is how to best meet the often conflicting purposes of protecting the scenic, natural, and cultural resources of the park, while concurrently providing for appropriate public use of these resources.

In general, the visual resource impacts of the proposed project is site specific and would not result in changes to other project areas within the local viewshed. However, the reopening of Klingle Road and the restoration of Klingle Creek would help accomplish the central issue of Rock Creek Park’s GMP by improving the overall aesthetics of the valley and allowing for public use by providing a scenic thoroughfare adjacent to Rock Creek Park.

#### **6.2.4 Analysis of Cumulative Impacts for Topography, Geology, and Soils**

Topography, geologic and soil impacts are site specific and are not affected by cumulative development in the region. Cumulative impacts would only occur if development immediately adjacent to the site affected these resources on the site, or if development on the site affected geologic resources of the site where other development may occur. Because the land adjacent to the Klingle Road and Klingle Creek are administered by NPS there will be no development, and no cumulative impacts would occur.

#### **6.2.5 Analysis of Cumulative Impacts for Biological Resources**

Habitat for native vegetation, terrestrial and aquatic organisms has been greatly altered and/or removed in the region over time as the Metropolitan Washington D.C. area grew and development increased. This is a

significant cumulative impact on regional biological diversity. Rock Creek Park is one of the few places within the city where habitat has remained and been protected. Reopening Klingle Road would decrease the overall amount of habitat not directly affected by traffic within the Metropolitan Washington D.C. area. Because the total area being affected is relatively small, and there is good amount of habitat adjacent to Klingle Road, the overall adverse cumulative impacts would be slight. Improved stormwater management and the restoration of Klingle Creek, in conjunction with implementation of the new Rock Creek Park General Management Plan and restoration efforts in Rock Creek to improve fish passages, would have long-term beneficial impacts to the biological resources of Rock Creek Park and the region in general. Cumulative benefits would be seen as habitat is protected, water quality improved, fish movement increases up the watershed, soil erosion decreased, and the decrease in the natural rate of tree loss due to erosion within Klingle Valley.

#### **6.2.6 Analysis of Cumulative Impacts for Water Resources**

Metropolitan D.C.'s past growth and its continual urban runoff has negatively affected the water resources of the Klingle Creek and ultimately the Chesapeake Bay Watershed. The restoration of Klingle Creek could have cumulative beneficial to the efforts currently being taken to restore fish passage as water quality improvements within Klingle Creek would help improve water quality within Rock Creek. In addition, fish passages within Klingle Creek would also be improved from restoration efforts are carried out on the creek.

There would not likely be any cumulative impacts associated with Rock Creek and an upgraded stormwater management system within Klingle Valley in terms of volume of storm water. However, the stormwater improvements would decrease water velocities in both the piped flow and within Klingle Creek. The installation of numerous drop structures, improvements to Klingle Creek, and dissipation structures placed at the Q3 outfall would all act collectively to decrease water velocity coming out of Klingle Valley and entering Rock Creek at the Outfall at Q3 (Klingle Creek enters Rock Creek almost adjacent to this outfall). This would have beneficial cumulative impacts to Rock Creek as the overall velocity of water leaving Q3 from both the north and south subwatersheds is decreased, which would decrease the erosion and scouring that is currently taking place at the Q3 outfall.

#### **6.2.7 Analysis of Cumulative Impacts for Wild and Scenic Rivers**

There are no rivers in the project area designated as "Wild and Scenic"; therefore, there would be no cumulative impacts.

#### **6.2.8 Analysis of Cumulative Impacts for Coastal Barriers**

There are no coastal barriers in the project area; therefore, there would be no cumulative impacts.

#### **6.2.9 Analysis of Cumulative Impacts for Coastal Zones**

There are no Coastal Zone areas in the project area; therefore, there would be no cumulative impacts.

#### **6.2.10 Analysis of Cumulative Impacts for Transportation**

Impacts to local traffic and parking are site specific and would not combine cumulatively with other or traffic impacts of cumulative development. Further, the project would not substantially increase ridership on local transit facilities.

As indicated in Chapter 4, future traffic models show that there would only be slight beneficial impacts to local and regional traffic by reopening Klingle Road, and relieving a small part of the congestion along

Porter Street and Beach Drive. Therefore, the project would result in an overall small, but beneficial cumulative transportation impacts.

#### **6.2.11 Analysis of Cumulative Impacts for Cultural Resources**

Klinge Road is bounded by three historic districts that are listed in the National Register of Historic Places. It is possible that rerouting of local traffic onto a restored Klinge Road could have a long-term effect on the traffic circulation system in these districts and in the nearby Rock Creek Park Historic District. This effect could be beneficial, if congestion in any of these districts is eased by the new road. If one of the build alternatives were selected, the DDOT would consult with the DCHPO and other interested parties to assess the effect and, if the effect is determined to be adverse, undertake additional consultations to develop plans to mitigate adverse effects.

Construction of a recreation path under Alternatives B2 and D2 may create some minor cumulative threat to the integrity of any archaeological sites near the APE. By increasing pedestrian use, surface-exposed artifacts would be more susceptible to casual collection.

Under all construction options, stormwater management would entail stabilization of the Klinge Creek banks. Over the long term, by reducing bank erosion, this would have a beneficial effect upon any archaeological sites that may be present near the stream.

#### **6.2.12 Analysis of Cumulative Impacts for Air Quality**

Metropolitan Washington D.C. Area is currently in nonattainment for ozone (O<sub>3</sub>). This in itself is a cumulative impact, resulting from use of cars and stationary sources, as well as from construction of new projects in and around the area. This impact is primarily a result of past development that has generated the population and land use patterns that have lead to heavy reliance on automobiles and the urban infrastructure that generates air pollutants.

Any project that is constructed in this region has the potential to add traffic and other pollution emitting sources that would contribute to the cumulative degradation of air quality in the region. While the reopening of Klinge Road would provide but would not significantly increase the actual number of cars on the road, so any long-term cumulative adverse impacts would be minimal.

There would be adverse impacts to air quality from construction activities associated with the reopening of Klinge Road and the restoration of Klinge Creek. Although the project's impacts would be temporary, would not an exceed NAAQS standards, and would be reduced through mitigation measures the project would add to the continued exceedance of regional standards for ozone. The proposed action in combination with other cumulative projects, such as the restoration and rehabilitation of Rock Creek & Potomac Parkway and Beach Drive, and the restoration of fish passages in Rock Creek would cumulatively contribute to the continued exceedance state and federal ambient air quality standards.

#### **6.2.13 Analysis of Cumulative Impacts for Noise**

As there is little opportunity of any growth or development within the immediate area of Klinge Road, and as noise models show only moderate increases in noise levels over the course of 23 years, there would be little if any cumulative adverse impacts to noise under any of the proposed alternatives.

#### **6.2.14 Analysis of Cumulative Impacts for Socioeconomics**

Because of the limited growth potential in and around Klinge Road, the fact that there would be only minimal adverse and beneficial traffic impacts to local neighborhoods, and the opening of Klinge Road would have no impacts to local businesses, there would little if any cumulative impacts to socioeconomic issues.

### **6.2.15 Analysis of Cumulative Impacts for Relocation**

Under any of the proposed alternatives (No Action/No Build, B1, B2, C (Preferred), D1, and D2) there would never be a need for the relocation of individual or families; therefore there would be no cumulative impacts.

### **6.2.16 Analysis of Cumulative Impacts to Infrastructure**

The reopening of Klingle Road and the restoration of Klingle Creek would not result in additional demands on utilities and services. Therefore, this project in combination with other projects in the area would not have a significant cumulative impact on utilities and service systems.

### **6.2.17 Analysis of Cumulative Impacts for Energy**

Implementation of any of the five build alternatives would see a slight increase in energy needs; however, these increases would not be great enough to cause any cumulative energy impacts.

### **6.2.18 Analysis of Cumulative Impacts for Safety**

Impacts to safety would be limited to Klingle Road and would not be affected by cumulative development in the region. Cumulative impacts would only occur if development or some other action in the immediate vicinity of Klingle Road increased the number of people using Klingle Road, or increased or decreased the current risk to public safety to the site. Because the majority of land adjacent to Klingle Road and Klingle Creek is administered by NPS there will be no development, and because there are no road projects currently underway and no road projects in the foreseeable future that are expected to increase ridership on Klingle Road, no cumulative impacts to public safety would occur.

### **6.2.19 Analysis of Cumulative Impacts for Hazardous Materials**

While cleaning up lead contaminated soils from beneath Glover Bridge and repainting the bridge with a non-lead based paint would remove a public health hazard, there are no cumulative impacts from projects currently underway or in the foreseeable future that would add to or off-set impacts arising from this action.

## **6.3 SHORT-TERM USES VERSUS LONG-TERM PRODUCTIVITY**

This section discusses short-term impacts, resource use, and maintenance and enhancement of long-term productivity of the proposed project. Construction and operation of any of the five build alternatives would result in short- and long-term impacts and benefits, as discussed below.

### **6.3.1 Short-Term Uses**

With any construction, come temporary disturbances. Such disturbances consist of temporary construction noise and visual impacts, air quality impacts, wildlife and vegetative disturbances, along with potential home and business relocations. Short-term project costs include the commitment of substantial financial and material resources. Short-term uses of the human environment include project impacts considered substantial and temporary. These impacts include construction effects on local air quality; ambient noise levels; effects on biological resources, such as disturbance of wildlife habitat and special-status species; water quality; increased erosion; potential transportation and circulation impacts; and effects on Section 4(f) resources, cultural resources, and visual resources. Many of these impacts are

mitigated. Construction impacts associated with each build alternative are described in further detail in Chapter 4.

### **6.3.2 Long-Term Effects of the Proposed Project**

There will be considerable resources such as building materials, fossil fuels, and labor allocated to the construction of Klingle Road, installation of a stormwater sewer system, and restoration of Klingle Creek. Dedication of land for the proposed project would preclude opportunities for alternate land uses. Long-term adverse impacts of the proposed project include slight increases in ambient noise levels, slight decreases in air quality, and slight delay times in local traffic.

The negative short-term effects stated above however, are of minor concern when compared with the overall long-term beneficial impacts of the proposed project, which include:

- Creating a safe connector route between Porter Street and Woodley Avenue and enhancing east-west access for residents of the Crestwood, Mount Pleasant, Cleveland Park, Woodley Park and other neighborhoods by connecting to major arterial roads such as Wisconsin Avenue and 16th Street.
- Decreasing soil loss throughout Klingle Valley, which in turn:
  - Reduces the rate at which trees are being lost because of erosion undermining the foundation;
  - Improves habitat for native vegetation and wildlife;
  - Improves water quality in Klingle Creek and Rock Creek and ultimately the Chesapeake Watershed, which subsequently benefits to aquatic organisms and their habitats;
- Enhancing to the overall aesthetics of the area;
- Reducing in the amount of hazards to public health and safety; and
- Providing a functional stormwater sewer system.

### **6.3.3 Conclusion**

The proposed project would meet long-term transportation needs identified in the 2004 Budget Support Act of 2003 (D.C. Law 15-39; D.C. Official Code § 9-115.11). The project would provide long-term improvements, and it would enhance local circulation. The local short-term construction impacts, after the implementation of mitigation measures, would be acceptable in view of long-term benefits of the project. These long-term benefits would also outweigh the long-term operational impacts.

## **6.4 IRRETRIEVABLE AND IRREVERSIBLE RESOURCE COMMITMENTS**

Reopening Klingle Road, installing a new stormwater sewer system, and restoring Klingle Creek will involve the commitment of many resources. Some of these resources include land, construction materials, and manpower. Land within the ROW used in the construction of the proposed Klingle Road alignment is considered an irretrievable resource that includes everything below the surface as well.

### **6.4.1 Use of Nonrenewable Resources**

Construction of the proposed build alternatives would require the use of fossil fuels for construction vehicles, construction equipment, and construction personnel vehicles. Electrical energy would also be used onsite to power maintenance trailers and other equipment. During operation, vehicles traveling along the constructed alternative would use fossil fuels.

Fossil fuels and electrical energy would be expended to manufacture the materials and products associated with roadway construction. In addition to those materials, other materials such as concrete, sand, aggregate, and steel would be used. These resources are not retrievable; however, the proposed project would not have an adverse effect on their continued availability.

#### **6.4.2 Expected Changes as a Result of the Proposed Project**

Since 1839, land has been committed for the current alignment of Klingle Road for use as a transportation corridor. Implementation of any of the build alternatives would not require the commitment of additional land, which would result in the loss of vegetation and wildlife habitat, public parklands and recreation areas, or would affect special-status species and the movement of wildlife. Land used for the proposed project is considered an irreversible commitment during the time it is used for a transportation corridor and as a ROW for several utilities. Alteration of the landscape by the proposed project would also be considered an irreversible change, since the surrounding land is administered by the National Park Service, who is mandated to keep as undeveloped parkland. Long-term maintenance costs would also be considered irretrievable.

#### **6.4.3 Conclusion**

The proposed project would be beneficial to local residents and the watershed by improving safety, enhancing local mobility and circulation, and decreasing the amount of erosion within Klingle Valley. These long-term benefits are anticipated to outweigh the above-listed natural and fiscal resources.