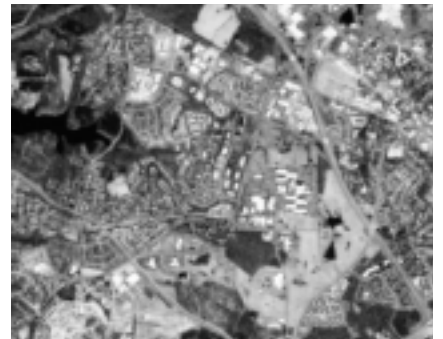


Paving the Way

**How Highway Construction Has
Contributed to Sprawl in Maryland**



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Brad Heavner

MaryPIRG Foundation

November 2000

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EXECUTIVE SUMMARY

Highway construction has been a key factor creating sprawl in Maryland. Data shows that highways were built not so much to serve the needs of existing communities and alleviate traffic for a stable population, but rather have allowed migration outward from the cities. They have been the cause of sprawl more than a solution to congestion.

An analysis of all developed residential and commercial properties in Central Maryland and the Eastern Shore in relation to all major highways indicates that highways act as magnets for development.

The first indicator of this effect is that most of the properties lining highways were built after the highways had already been laid. That is, the highways were not built where people lived and worked as much as people moved to where the highways were built. 75% of the state's highways were built in the 1950s and 1960s. This was followed by the period with the highest drop in population in Baltimore and Washington in the 1970s and the period of the highest rate of property development in the 1970s and 1980s.¹

80% of properties within the highway corridors of Central Maryland were built when a highway already existed within five miles. In the areas served by only one or two highways, where the effect of those highways is easier to measure, these trends are most clear:

- In Montgomery County, 93% of all developed properties within five miles of I-270 and beyond the beltway were built after the adjacent section of the highway was built. After highway construction, property was developed in the highway corridors 67% faster than in the rest of the county.
- In Howard County, 94% of all developed properties in the highway corridors had a highway within five miles when the properties were developed.

- In Frederick County, 83% of all developed properties in the highway corridors had a highway within five miles when the property was developed. Land in the highway corridors has been developed at a rate three times faster than in non-corridor areas since the highways were built.²

The second indicator is the fact that highway corridors are more developed than areas beyond the immediate vicinity of the highways. In the area surrounding Baltimore 5-20 miles from the city, 54% of the land in the corridors is developed, not including roads, while 39% of non-corridor land is developed. Surrounding Washington, 61% of the corridor is developed, compared to 40% of the non-corridor area. This difference is larger in the areas farther out from the cities, suggesting that highways play a greater role in the sprawling developments at the suburban fringe than they do in the areas immediately surrounding the cities.

Given the existence of the highways, it is certainly preferable to have development in the highway corridors rather than scattered throughout the outlying regions. But it appears that without the highways, less development would have been drawn outward from the cities into the outlying regions.

This growth is not simply a function of population pressures. In Montgomery, Howard, and Frederick Counties, during the last five years of the highway building boom in those counties and the five years following, the rate of property development increased sharply as the rate of population growth decreased sharply.

On the Eastern Shore, where one highway dominates the transportation system, we see an even clearer correlation between periods of highway and bridge construction and periods of increased rates of property development. Each of the major highway improvements — original

The highways were not built where people lived and worked as much as people moved to where the highways were built.

Given the strong evidence indicating that highways have helped to induce the current state of sprawl in Maryland, future highway projects should be examined with a critical eye.

construction of Route 50, expansion of the Bay Bridge, and the Reach the Beach package of transportation projects — appear to have spurred property development on the Eastern Shore. Looking only at development surrounding the four biggest cities on the Eastern Shore, rates of development were highest during periods of local highway construction and the periods of highway improvements affecting the entire region.

There are certainly many factors which have contributed to sprawl in Maryland. Local zoning policies, water and sewage infrastructure, suburban tax incentives, and other policies have all done their part to shape development in the state. The influence of highways on sprawl, however, largely transcends policy differences among local jurisdictions. Given the strong evidence indicating that highways have helped to induce the current state of sprawl in Maryland, future highway projects should be examined with a critical eye for their tendency to exacerbate the problem.

While positive steps have been taken to curb sprawl and promote “Smart Growth” in Maryland, massive highway construction projects continue to consume large amounts of taxpayer dollars in the state’s

transportation plans. Highway projects in the state’s six-year transportation plan already under development carry price tags totaling over \$4.3 billion. The 20-year plan for the Baltimore region contains over \$2.7 billion in highway projects. The justification for many of these projects is “to handle expected future traffic needs” and “relief of future congestion in areas of planned future development” in outlying regions.³

If state and county planners are serious about curbing sprawl, they must reduce their emphasis on constructing new and wider highways in a futile attempt to relieve traffic congestion and a misguided effort to serve sprawling development in Maryland’s outer areas. If the mobility of Marylanders is truly to be enhanced over the next twenty years and beyond, county land use planners and state transportation planners must work together in new ways. They must focus on providing efficient and affordable public transit and steer new development into communities where people can accomplish at least some of their work, shopping, entertainment, and school trips through walking, bicycling, and transit, rather than being forced by sprawling land use patterns to rely solely on their cars.

INTRODUCTION

Over the past several years sprawl has emerged as one of the most high-profile quality of life issues facing the state of Maryland. Residents of Maryland's outer suburbs increasingly see their communities encroached upon and crowded by new subdivisions. Rural residents see farmlands and open spaces bulldozed and watch new houses spring up like mushrooms after a summer rain. Maryland's urban anchor, Baltimore City, and increasingly its inner suburbs and those of Washington, D.C., suffer the consequences as middle class residents flee to these new developments in the outer suburbs and rural areas.

Some measures designed to curb this problem are beginning to take effect, primarily Governor Parris Glendening's 1997 Smart Growth legislative package. That package's Rural Legacy program has already used state dollars to preserve 32,000 acres of rural farmland across the state.⁴ The state has also implemented another Smart Growth measure designed to focus state development investments in urban and planned "priority funding areas," or "smart growth areas."

Highway and transportation development, however, has thus far escaped thorough scrutiny for its impacts on runaway sprawl and urban divestment. Consequently, the concept of highway-induced sprawl is not currently driving Maryland's transportation debate. Rather, state and regional transportation plans are weighted heavily toward highway projects, and business and highway-building interests have raised concerns to state policy makers that more money needs to be made available for highway construction.

The Contribution of Highways to Sprawl

There are many factors which have led to the current pattern of development in Maryland. We cannot forget that suburban towns wanted growth to increase

their tax base, and consciously encouraged sprawl with their tax and zoning policies. Unfortunately, they were often more generous with the tax incentives than was in their best interests in the long run, as most suburban developments have not paid their own way to cover all the costs of the increased burden on city services and infrastructure. Many planners have also recently concluded that the low density residential patterns they favored for so long are not as desirable as once thought, as problems like loss of open space, diminished sense of community, dependence on cars, traffic congestion, and degraded air quality begin to outweigh the benefits of large backyards.

But sprawl is more than a problem of local zoning policies. It has also been encouraged by the state and federal governments through their massive spending on highways.

Recent research nationally and in other states has shown that highway construction often leads to increased development of previously undeveloped areas by providing greater access to those areas.

- A 1999 report by the Georgia Conservancy and the American Farmland Trust found that "transportation policies have had a greater impact on the direction of metropolitan Atlanta's growth than any other." They analyzed land prices to measure the increased value to developers of land near highways, and showed that highway construction increased the value of land within one mile of the highway by an average of \$10,000 per acre.⁵
- A 2000 Brookings Institution report found that "changes in metropolitan patterns are induced by highways." They concluded that federal highway funding has constituted a subsidy to suburban regions at the cost of urban centers, leading to "less than optimal urban growth patterns."⁶

- The Victoria Transport Policy Institute found in 1999 that “auto-mobile-oriented transportation increases per capita land use by ... accommodating low-density development at the urban periphery (sprawl).” The report then explored the many costs of highways’ impacts to land use.⁷

While the sprawl-inducing effect of highways is accepted in planning theory by most scholars and planners, debate in Maryland has lacked an analysis of concrete data from this state. This study seeks to fill that gap.

The Lesson to Be Learned

The transportation debate has traditionally been dominated by the question of how to alleviate traffic congestion, and the approach of building more lanes and more roads to accommodate the current traffic load is consistently at the top of the pile of competing visions. It is now clear, however, that we cannot build our way out of congestion. Increasing the capacity of our roads facilitates yet more trips, spreading out subsequent development and creating the need for more cars driving more miles. An aggressive rate of road building exacerbates the very problem it was intended to alleviate.

This is not a new phenomenon. For the past fifty years, highway development has been a central cause of the auto dependent structure of our cities, towns, and suburbs, not just the result of this structure. Transportation projects, such as highways, are not only undertaken in response to development, but our choices in historic transportation projects have fundamentally shaped our land use and development patterns today. By approving or funding certain transportation projects, policy makers are significantly influencing where tomorrow’s residents will live and work.

This understanding should be as empowering as it is accusatory. Since our

current state is significantly the result of massive government spending on transportation projects, changes in that spending can help remedy historic ills.

Governor Glendening has taken the first steps toward reorienting transportation priorities. He has canceled highway projects which do not pass smart growth safeguards, and has made large increases in state funding for public transit. These efforts are to be applauded, but there is still a long way to go. Decades of emphasis on highway expansion must be reversed to the point where the principle response to increases in transportation and access needs is developing projects which provide greater availability of highway alternatives — such as public transportation, pedestrian and bicycle facilities, and urban design which creates more walkable communities.

This must be a coordinated effort between government bodies at all levels. After relying on highways to meet the bulk of our transportation needs for so long, the mutual stimulation between highways and sprawl has tremendous momentum. County land use plans assume continued highway expansion, and state and regional transportation plans assume continued sprawl. To stem this destructive trend, state transportation planners must work with local land use planners, and local planners must work across county lines, to complement changes in transportation priorities with appropriate land use planning.

Decades of emphasis on highway expansion must be reversed.

PART ONE: CENTRAL MARYLAND

With two major cities thirty miles apart, Central Maryland has been vulnerable to sprawl throughout the building booms of recent decades. But historic transportation policies have only added to this inherently difficult situation.

Instead of focusing on efficient and affordable public transit between the two cities, governments have spent big on highways. Rather than investing in urban revitalization and new walkable communities served by efficient transit, governments have facilitated flight from the cities to auto-dependent suburbs. Policies favoring these new suburbs have made Central Maryland one of the nation’s most striking examples of runaway sprawl development. Millions of acres of open space have been transformed into suburbs and subdivisions.

A. Highways Came Before Development

The common intuitive understanding of road development is that roads are built to serve the needs of populations that need to move between the places where they live, work, and shop. Many of our highways, however, did not evolve according to the needs of existing communities. They were built before those communities even existed, and to a large degree determined where people would live and where their employment and commercial needs would be met.

Having easy access to other locations makes any property attractive to development. Before highways are built near farmland or open space, people with connections to the cities are reluctant to buy a home in a newly developed area, even if it offers more space at a lower cost than urban areas. Once rapid mobility is established, however, positives often outweigh negatives and the land is developed.

Table 1: Property Development After Highway Construction

County	Percentage of properties in highway corridors built after adjacent segment of highway ⁹
Montgomery	89%
Frederick	83%
Howard	94%
Carroll	68%
Carroll — I-70 corridor	85%
Baltimore	64%
Baltimore — I-83 corridor	86%
Prince George’s	66%
Anne Arundel	75%

Certainly some Maryland highways were built to provide mobility for people who already lived or worked along the corridor of the highway. But most highways were there before the bulk of the development. 75% of the state’s highways were built in the 1950s and 1960s. This was followed by the period with the highest drop in population in Baltimore and Washington in the 1970s and the period of the highest rate of property development in the 1970s and 1980s.⁸

Throughout Central Maryland, 80% of all properties in the highway corridors already had a highway within five miles or a beltway within three miles when they were developed.

Policies favoring new suburbs have made Central Maryland one of the nation’s most striking examples of runaway sprawl development.

B. Highway Corridors Are More Developed than Non-Corridors

Building a highway impacts land far from the edge or the end of the highway, since any area is impacted by improved access to the nearest major metropolitan area. Comparing the land near highways with areas that are not adjacent to a highway, however, we see that highways have a magnet effect. In Central Maryland, the

Central Maryland

highway corridors are more developed than the non-corridor areas.

54% of all available land in the highway corridors between five and twenty miles of Baltimore has been developed into residential and commercial properties. In the non-corridor areas of this 5-20 mile ring around Baltimore, 39% of the land has been developed. In the 5-20 mile ring around Washington, 61% of the highway corridor areas have been developed, while only 40% of the non-corridor areas have been developed.¹⁰ None of these figures include roadways and roadsides, which can require up to 30% of all land in urbanized areas.¹¹

Proximity to highways appears to be more important in the areas farther from the cities than in the areas immediately surrounding the cities. As seen in the table below, each ring farther out from the cities has a greater difference in the percentage of land which is developed in highway

corridors as compared to non-corridor areas. This suggests that highways play a greater role in the sprawling developments at the suburban fringe than they do in the areas immediately surrounding the cities. (See also Figures 1 and 2.)

The fact that these percentages don't differ even more indicates that the impacts of highways are felt far beyond a five-mile corridor. Since highways are mostly drawing development out from the major metropolitan areas, rather than drawing development in from the outlying areas away from the highway corridors, highways exhibit a "ripple effect" in addition to the "magnet effect." There is clearly more development near the highways, but development away from the highways has increased as well. In fact, as open space in the highway corridors becomes more scarce, it is the land beyond the corridors which is most at risk from future sprawling development which highways will likely continue to draw out from the cities.

Table 2: Amount of Development in Highway Corridors vs. Non-Corridor Areas

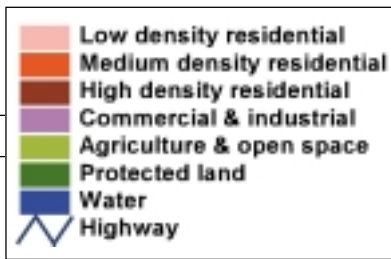
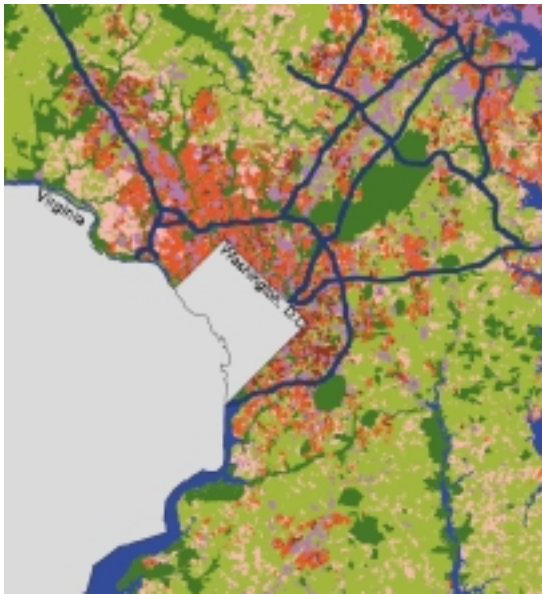
Area	Percentage of All Available Land Developed	Difference
5-10 miles from Baltimore		
highway corridors	64%	
non-corridor areas	62%	2%
10-15 miles from Baltimore		
highway corridors	50%	
non-corridor areas	40%	10%
15-20 miles from Baltimore		
highway corridors	42%	
non-corridor areas	29%	13%
5-10 miles from DC		
highway corridors	65%	
non-corridor areas	54%	11%
10-15 miles from DC		
highway corridors	62%	
non-corridor areas	48%	14%
15-20 miles from DC		
highway corridors	54%	
non-corridor areas	29%	25%

C. Sprawl by County

The two main findings above hold true for each county. Most highways were built into relatively undeveloped land, with property development following later, and land has been developed much faster in the highway corridors than elsewhere since the highways were built.

Montgomery and Frederick Counties, where one or two highways dominate the transportation system, show very clear links between highways and sprawl. Howard County, which has gone from being little developed to almost completely developed in the span of a few decades, also shows a strong link throughout the county. In Prince George's and Anne Arundel Counties, some older communities existed before the highways were built, yet there is still a distinct contrast in property development between the areas near the highways and the areas

Figure 1: Washington, D.C., Area Land Use



Highway Corridors



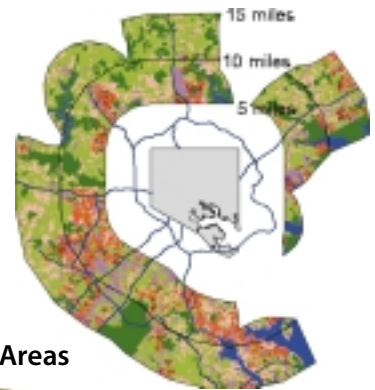
Non-Corridor Areas



Figure 2: Baltimore Area Land Use



Highway Corridors



Non-Corridor Areas



Central Maryland

without any nearby highways. In Baltimore County, property development has followed the highway into the northern part of the county, but the area has not been developed as much as most highway corridors due to other limiting factors.

Montgomery County

The sprawling suburbs north of Washington in Montgomery County known collectively as the technology corridor were spurred largely by construction of I-270, which linked the area to the city in 1954 & 1958. Before the highway was built, there were very few commercial or residential properties there. Since construction of the highway, the area has become the very picture of sprawl. The highway was already there when 93% of all currently developed properties in the I-270 corridor were built, not including the five miles nearest Washington.

In addition to the I-270 corridor, there are several areas around the edges of Montgomery County which fall within the corridors of highways in other counties. I-70 passes within one mile of the

northern tip of the county, I-95 follows the southeastern border of the county within a mile, and parts of MD-32 are four miles from the northeastern border. Including these areas, 89% of all properties in Montgomery County highway corridors more than five miles from Washington were built since an adjacent section of highway was in place.

Since construction of the highways, 30% of the available land in the highway corridors has been developed, as opposed to 18% in the rest of the county, constituting a 67% faster rate of development in the highway corridors. (See Table 3.)

The concentration of growth in the I-270 corridor was intentionally encouraged by the county's "Wedges and Corridors" growth strategy. This strategy has clearly been preferable to unplanned, scattered development, and has allowed the county to designate 90,000 acres as protected agricultural and rural open space. While an aggressive rate of highway construction and expansion seems to have drawn development outward from Washington, the county has reduced the impacts on open space through its zoning policies.

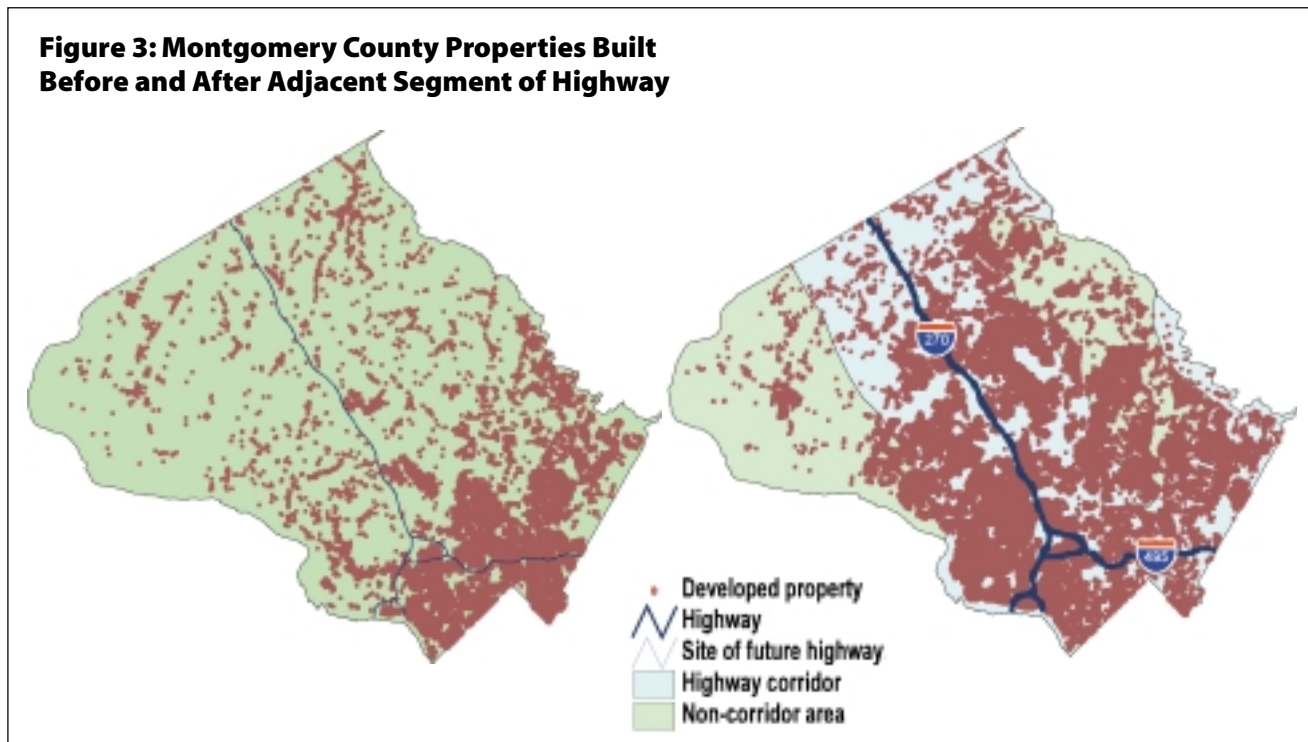


Table 3: Post-Highway Development in Montgomery County (acres)

	Total Area	Protected Land	Acres Developed Before Adjacent Hwy. Segment	Available Land After Hwy. Construction	Acres Developed After the Adjacent Hwy. Segment	Percentage of Total Available Land Developed After Hwy. Construction
Highway Corridors	167,765	31,201	9,724	126,840	37,432	30%
Non-Corridor Areas	121,029	22,900	3,952	94,177	16,625	18%

Frederick County

Before the construction of I-270 and I-70, Frederick County was an area very distinct from Baltimore and Washington. Since these highways were built, the county has increasingly been suburbanized as commuters have chosen to build homes there. (See Figure 4.)

Since the highways in Frederick County were built, the rate of development within the highway corridors has

been three times higher than in the rest of the county. In fact, Frederick County has the highest difference between corridor and non-corridor development after highway construction among all Central Maryland counties. This further demonstrates that highways are a bigger factor for the sprawling development farther out from the major metropolitan areas than they are for the more dense development near the cities.

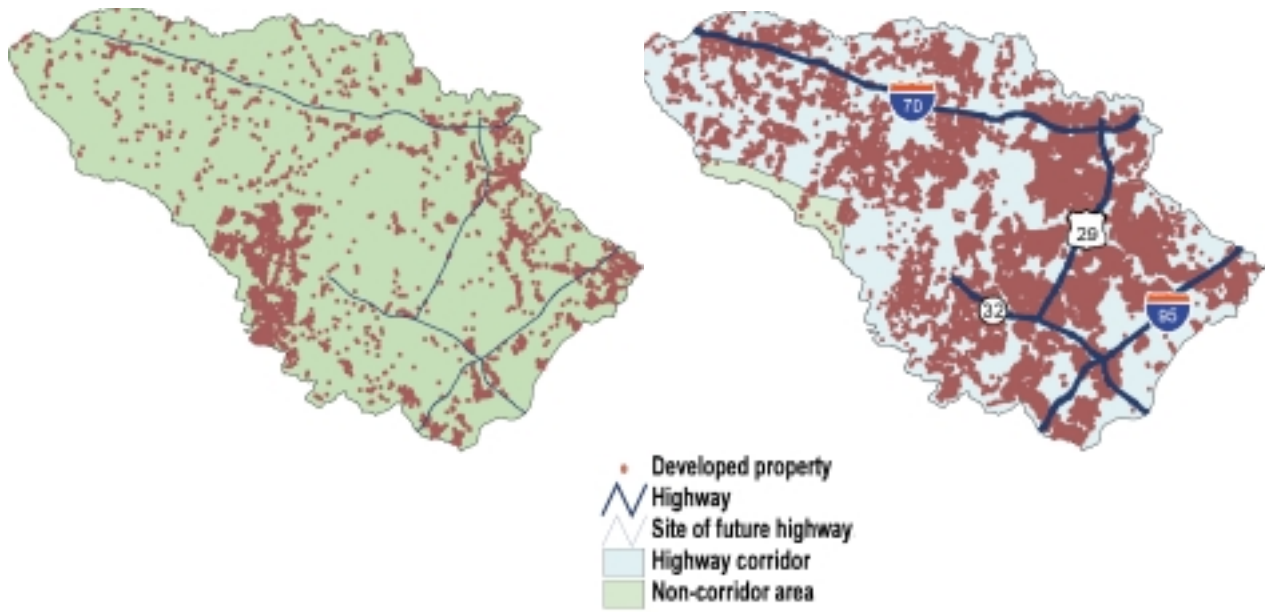
Table 4: Post-Highway Development in Frederick County (acres)

	Total Area	Protected Land	Acres Developed Before Adjacent Hwy. Segment	Available Land After Hwy. Construction	Acres Developed After the Adjacent Hwy. Segment	Percentage of Total Available Land Developed After Hwy. Construction
Highway Corridors	197,516	20,433	10,722	166,361	40,603	24%
Non-Corridor Areas	231,771	40,473	11,197	180,101	14,919	8%

Figure 4: Frederick County Properties Built Before and After Adjacent Segment of Highway



Figure 5: Howard County Properties Built Before and After Adjacent Segment of Highway



Howard County

Nearly all of Howard County is now within a highway corridor. Three of the four highways were built by 1968, and were built into mostly undeveloped areas. 94% of all developed properties in the highway corridors were built after a highway was already in place within five miles. Part of this construction was the planned development of Columbia. Since then, property development has crept gradually westward.

As MD-32 is a relatively new highway, many of the properties in its corridor were built before the road east of Route 108 became a controlled-access highway free of stoplights in 1985 and 1996. (See Figure 5.)

These increased rates of property development are not simply the result of population pressures. In most five-year periods in the last half-century, property development in Montgomery, Howard, and Frederick Counties has roughly paralleled population growth. The exception is 1965 to 1975, the period when the majority of highway lane-miles were nearing completion and shortly thereafter. In those years, the rate of property development was sharply increasing while the rate of population growth was sharply decreasing.

The non-corridor area of Howard County is not big enough in relation to the highway corridors to form a statistically valid comparison of development between the two areas.

Table 5: Highway Construction in Montgomery, Howard, and Frederick Counties

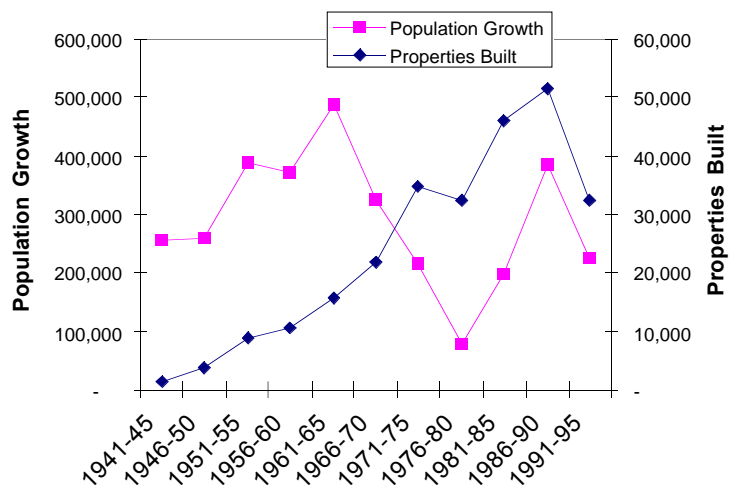
Decade	Lane-Miles Built
1950s	173
1960s	285
1970s	43
1980s	31
1990s	44

Prince George's County

Prince George's County is home to some older communities than those in other Central Maryland counties. Hence, a higher percentage of the property development took place before highway construction. Only 66% of properties were built after the adjacent segment of highway, compared with the 80% average of all Central Maryland counties. However, most property development since highway construction has continued to be concentrated in the highway corridors. There has been noticeably less development in the southern part of the county than the northern part, except in the area immediately surrounding Washington. (See Figures 7 and 8.)

Since construction of the highways in Prince George's County, 25% of the available land in the highway corridors has been developed, as opposed to 14% in the rest of the county, constituting a 79% faster rate of development in the highway corridors. (See Table 6.)

Figure 6: Growth in Montgomery, Howard, and Frederick Counties



Central Maryland

Figure 7: Land Use in Prince George's County, 5–20 Miles from Washington, D.C.

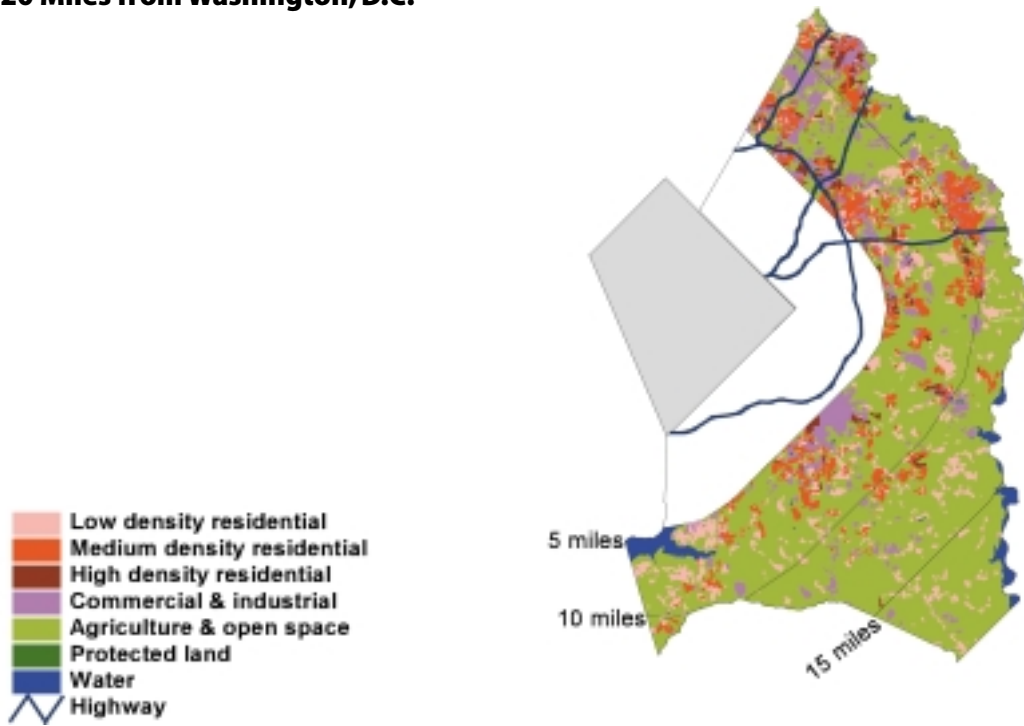


Figure 8: Prince George's County Properties Built Before and After Adjacent Segment of Highway



Table 6: Post-Highway Development in Prince George's County (acres)

	Total Area	Protected Land	Acres Developed Before Adjacent Hwy. Segment	Available Land After Hwy. Construction	Acres Developed After the Adjacent Hwy. Segment	Percentage of Total Available Land Developed After Hwy. Construction
Highway Corridors	95,771	24,071	20,363	51,337	12,849	25%
Non-Corridor Areas	141,573	21,793	10,714	109,066	15,688	14%

Anne Arundel County

75% of Anne Arundel properties were built after the adjacent segment of highway. Since this is lower than the 80% average of all Central Maryland counties, this suggests that highways were built into areas that had already been somewhat developed, as compared to the surrounding counties. However, as the most of the county's lane-miles were built much later than in other counties, we might expect this difference to be even greater. The fact that there is only a 5% difference indicates that even newer highways spur increased development. (See Figure 9.)

Nearly as much property development has taken place in the non-corridor areas as in the highway corridors since highway construction in this county. As the map demonstrates, however, most of this non-corridor area development was on the north coast and on the peninsula south of Annapolis (beyond the tip of

I-97). There has been relatively little development in the large area throughout the southern section of the county which is not reached by highways.

Baltimore County

There is less sprawl along the I-83 corridor in northern Baltimore County than in other highway corridors, most likely due to the strict zoning policies of the Baltimore County Department of Planning. But there is evidence that the development that has taken place there has been spurred by the highway. 86% of the properties in the I-83 corridor beyond the beltway were built after the adjacent section of highway. (See Figure 10.)

The non-corridor areas of Baltimore County are not big enough in relation to the highway corridors to form a statistically valid comparison of development between the two areas.

Table 7: Post-Highway Development in Anne Arundel County (acres)

	Total Area	Protected Land	Acres Developed Before Adjacent Hwy. Segment	Available Land After Hwy. Construction	Acres Developed After the Adjacent Hwy. Segment	Percentage of Total Available Land Developed After Hwy. Construction
Highway Corridor	189,800	26,611	23,087	140,102	42,358	30%
Non-Corridor Areas	84,937	11,687	15,274	57,976	15,371	27%

Central Maryland

Figure 9: Anne Arundel County Properties Built Before and After Adjacent Segment of Highway

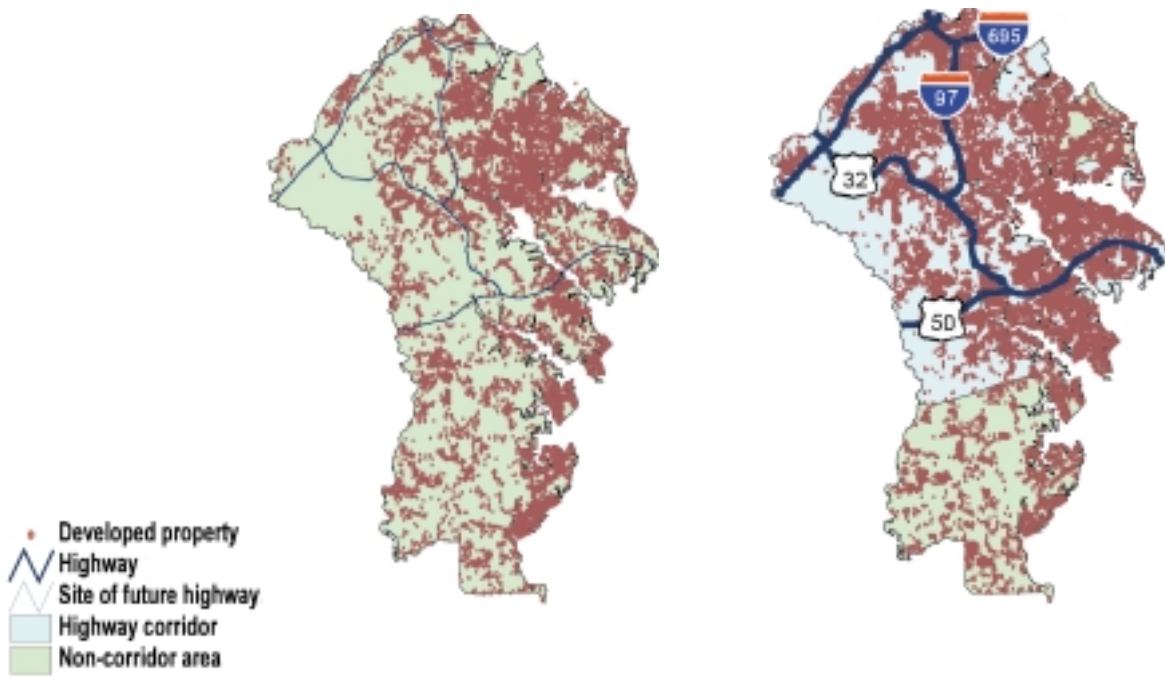
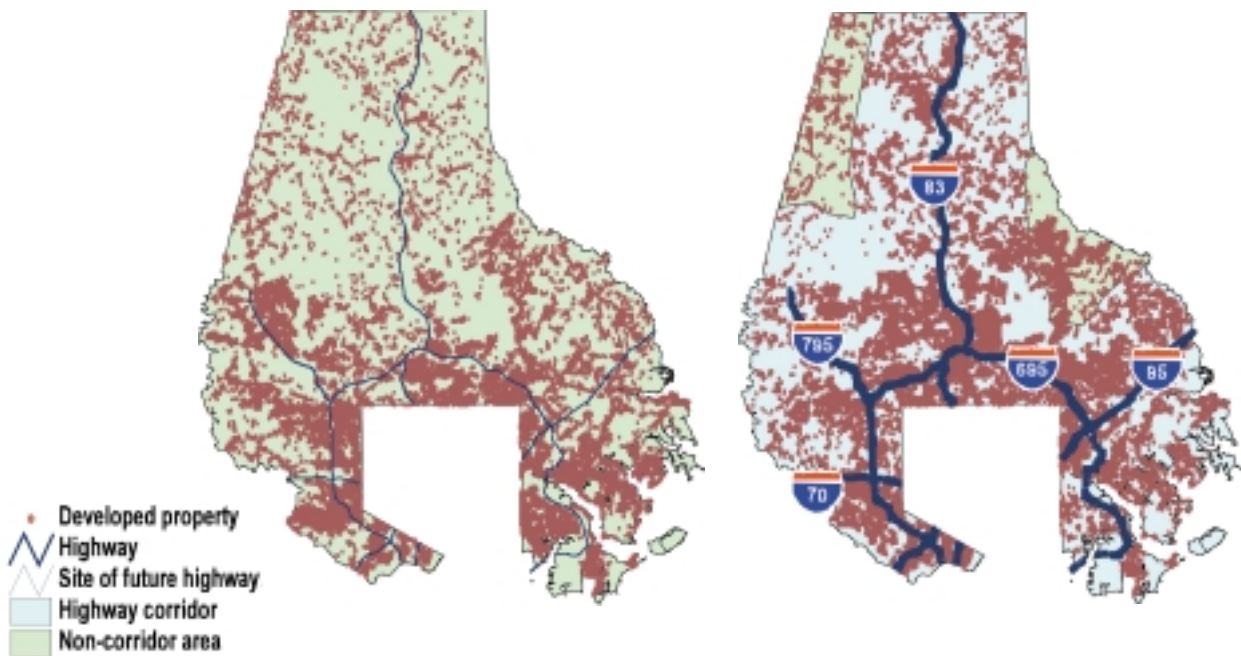


Figure 10: Baltimore County Properties Built Before and After Adjacent Segment of Highway



PART TWO: EASTERN SHORE

Maryland's Eastern Shore, the flat coastal plain between Chesapeake Bay and the Atlantic Ocean, is still much less developed than Central Maryland. People know it as a scenic expanse of farmland, fisheries, and country roads. Increasingly in recent years, however, construction crews have been hard at work developing land on the Eastern Shore. There is clear evidence that this development has been incited largely by investment in highways and bridges. In fact, because Eastern Shore transportation is so heavily dominated by one highway and its bridges, the correlation between highway construction and sprawl is even more evident in this region.

A. US-50 Construction

Route 50 is one of the oldest highways in the state. The Eastern Shore segments, which run from the Bay Bridge to Ocean City, began construction in 1942. By 1965, most of the segments were complete. Since then, there has been ongoing improvement and widening of the highway.

Most of the development in the highway corridor has come since the road was laid. In the non-municipal areas of the Route 50 corridor — the region within five miles of the highway but outside of the cities — 87% of all properties have been built since the adjacent segment of the highway was built.¹²

The biggest increases in lane-miles to the Eastern Shore portion of US-50 came in 1947, 1952, 1953, 1962, and 1965. As seen in the chart below, periods of growth in development followed each of these highway construction projects. Two years after the 1947 construction, the number of properties built

Figure 11: Land Use in Queen Anne's, Talbot, and Dorchester Counties



Figure 12: Eastern Shore Highway Construction and Property Development Rates

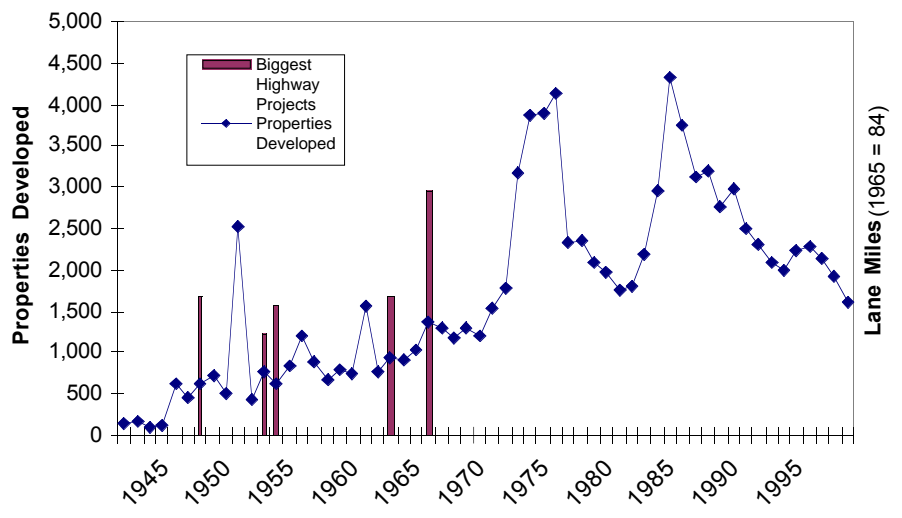


Table 8: Bridge Expansion and Eastern Shore Property Development

Time Period in Reference to Bridge Expansion	Percentage of Total Properties Built
21–25 years before	4%
16–20 years before	4%
11–15 years before	5%
6–10 years before	6%
1–5 years before	7%
1–5 years after	12%
6–10 years after	8%
11–15 years after	17%
16–20 years after	15%
21–25 years after	14%

jumped to four times the rate of the preceding years. The 1952–53 construction was followed by a short spurt of growth in which the rate of development doubled in two years. Four years after the 1962–65 construction phase, the rate of development tripled over a three-year period.¹³

B. Bridge Expansion

Expansion of the US-50 bridge across Chesapeake Bay in 1973 provided a further boost to the rate of development of properties on the Eastern Shore of Maryland. Looking at the properties in the highway corridor between the four towns along US-50 on the Eastern Shore, we see that development jumped upon bridge expansion.

Although the whole state has been growing steadily in past decades, the Eastern Shore has absorbed a disproportionate share of the property development since expansion of the bridge. The greatest disparity between the rate of Eastern Shore property development and statewide population growth occurred during construction of the second span of the Bay Bridge and in the first two years it put into service.

Maryland’s population in 1970 was 9% higher than five years earlier. In 1975, this

Figure 13: Eastern Shore Property Development and Statewide Population

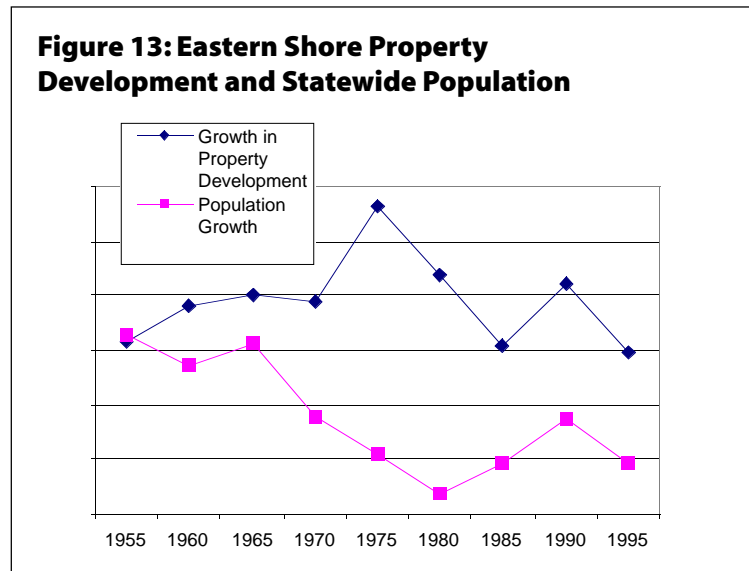


Table 9: Eastern Shore Property Development and Statewide Population

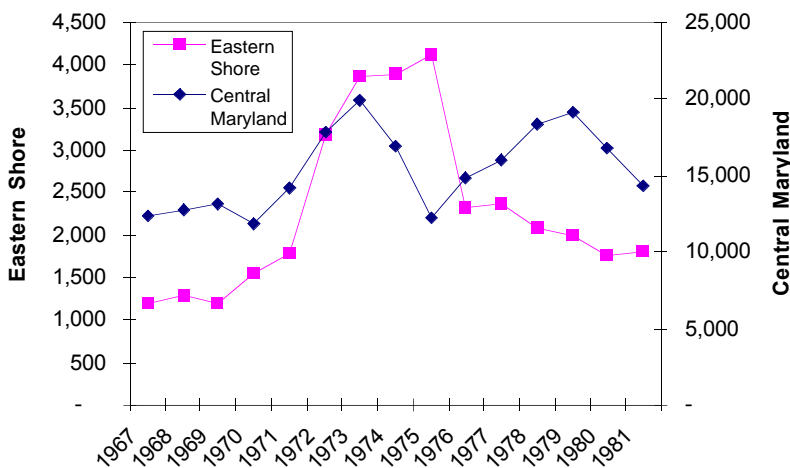
Year	Number of Developed Properties on Eastern Shore	Percentage Change	Maryland Population	Percentage Change
1950	13,142		2,355,000	
1955	15,213	16%	2,742,000	16%
1960	18,116	19%	3,113,000	14%
1965	21,737	20%	3,600,000	16%
1970	25,970	19%	3,923,897	9%
1975	33,307	28%	4,139,096	5%
1980	40,606	22%	4,216,975	2%
1985	46,885	15%	4,413,071	5%
1990	56,730	21%	4,797,431	9%
1995	65,070	15%	5,023,650	5%

had fallen to 5% growth over five years. At the same time, the rate of property development on the Eastern Shore rose from 19% over five years in 1970 to 28% in 1975. (See Figure 13 and Table 9.)

Expansion of the Bay Bridge appears to have given a boost to Eastern Shore development in comparison with development in Central Maryland. While 1970-73, the time of bridge construction, was a period of growth in both Central

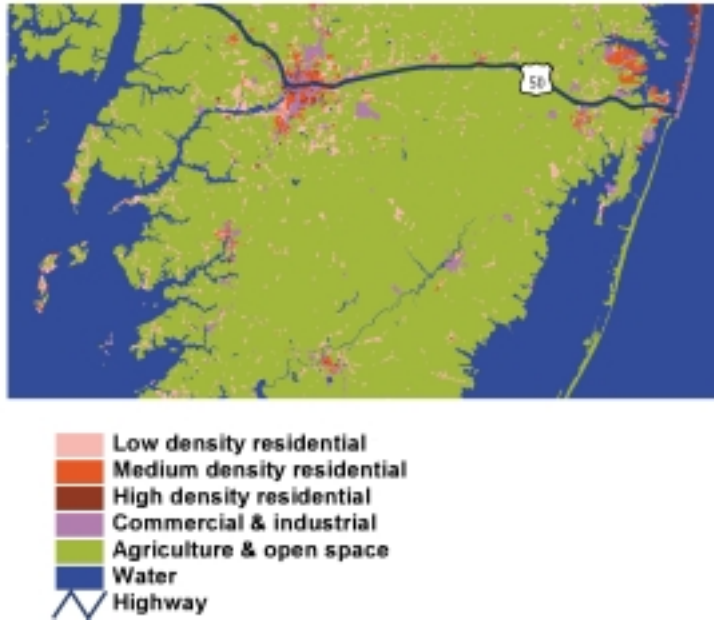
Maryland and the Eastern Shore, development increased more rapidly on the Eastern Shore. In Central Maryland, the increase was sharply reversed in the following two years, returning to 4% above the 1970 level of development in 1975. On the Eastern Shore, the development boom was sustained past 1973. Only in 1980 did Eastern Shore development reach another low point, when it bottomed out at 14% above the 1970 level.

Figure 14: Property Development on the Eastern Shore vs. Central Maryland



Eastern Shore

Figure 15: Land Use in Wicomico, Somerset, and Worcester Counties



C. Sprawling Cities

The areas surrounding each of the four cities on Maryland’s Eastern Shore — Easton, Cambridge, Salisbury, and Ocean City — have seen considerable growth in the past fifty years. Easton has spread out in all directions, new development around Cambridge has sprung up to the east of town along the Choptank River, Salisbury has grown rapidly, and suburbs have developed out of farmland near Ocean City. In each of these cases, jumps in the rate of development coincided with major highway and bridge construction projects which increased the accessibility of the cities.

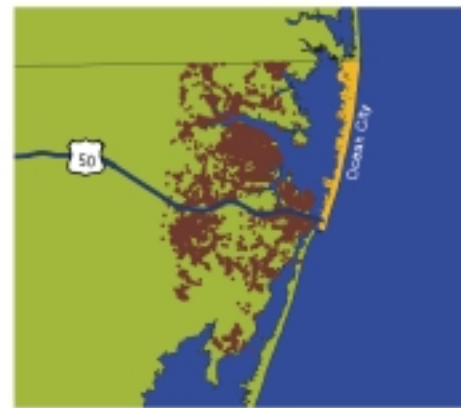
Ocean City

Massive residential developments and strip shopping centers have sprung up in recent years in the area surrounding Ocean City. Land that was open space before the bridge expansion has been dug up for low density residential neighbor-

Table 10: Ocean City Area Property Development

Period	Properties Built	Percentage Change
1951–55	91	
1956–60	227	149%
1961–65	278	22%
1966–70	324	17%
1971–75	934	188%
1976–80	1128	21%
1981–85	1738	54%
1986–90	2185	26%
1991–95	2453	12%

Figure 16: Ocean City Area



hoods. In the eight miles beyond Ocean City, outside of city limits, only 20% of the current development existed in 1972. Ten years later, nearly twice as many properties were developed. In the five-year period surrounding the opening of the second span of the Bay Bridge, the number of properties developed nearly tripled from the previous five-year period.

From 1987–91, Governor William Donald Schaefer oversaw a major highway improvement program on the Eastern Shore known as “Reach the Beach.” The effort included the construction of interchanges and overpasses in place of

traffic signals, replacing drawbridges with uninterrupted bridges, and halting tolls on the westbound span of the Bay Bridge. The program was designed to give tourists from Central Maryland better access to the Maryland coast, but it appears also to have encouraged developers to build homes in the new suburbs around Ocean City. From 1986–89, at the same time as the Reach the Beach effort, the rate of property development rose 170%. It then fell back to just short of double the 1986 rate and has remained at that level since.

Salisbury

Development surrounding Salisbury has spread in all directions as highway improvements have been made. While much of the development in the cities of Salisbury and Fruitland and within one mile of city limits has existed for over thirty years, properties in the four miles farther out from the towns are much newer.

The two fastest growth periods in the Salisbury area correspond with major highway improvement projects. From 1971–75, as the second span of the Bay Bridge was being constructed and shortly thereafter, the rate of property development nearly doubled from the previous five-year period. From 1986–90, as the Reach the Beach improvements were being made, property development around Salisbury jumped 123%.

Table 11: Salisbury Area Property Development

Period	Properties Built	Percentage Change
1961–65	316	
1966–70	445	41%
1971–75	863	94%
1976–80	866	0%
1981–85	565	-35%
1986–90	1259	123%
1991–95	928	-26%

Figure 17: Ocean City Area Property Development

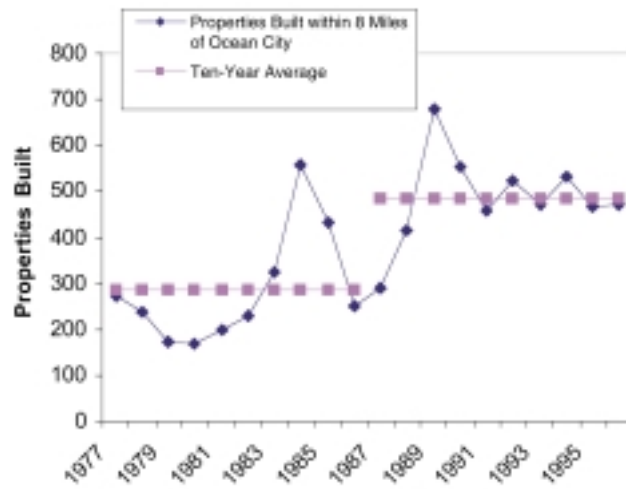
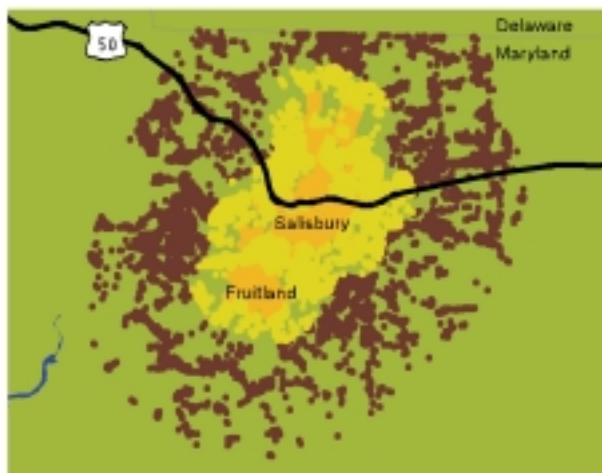


Figure 18: Salisbury Area



- Cities
- Property within one mile of cities
- Property 2-5 miles from cities

Eastern Shore

Figure 19: Cambridge Area

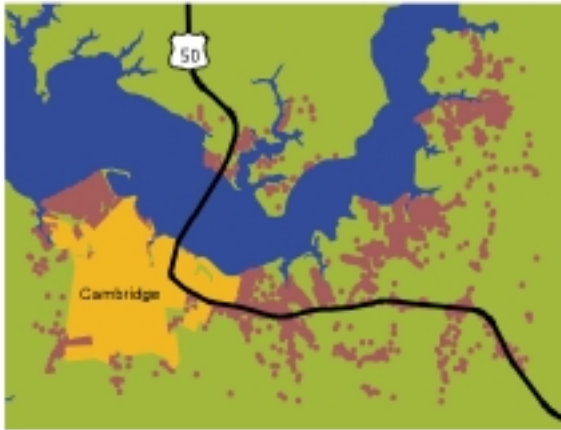
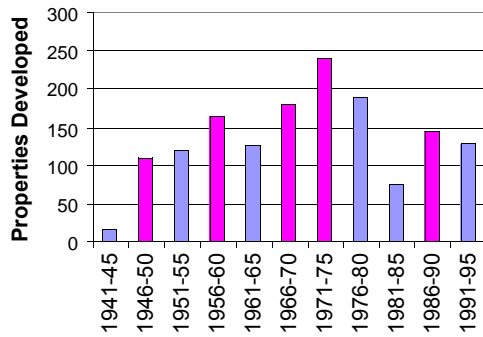


Figure 20: Cambridge Area Property Development



Cambridge

Four of the five periods of significant growth in property development in the area outside Cambridge correspond with major transportation improvements.

The main stretch of highway in Dorchester County was built in 1946 (westbound) and 1966 (eastbound). The other main transportation projects affecting the region were the expansion of the Bay Bridge in 1973, and the replacement of the drawbridge across the Choptank River with an uninterrupted concrete bridge in 1987, part of the Reach the Beach package of transportation projects.

The most developed part of the Cambridge area outside of city limits is the waterfront to the north and east of the city. This area experienced large increases in the rate growth in five separate periods over the past sixty years, four of which appear to have been fueled by the major highway improvements in 1946, 1966, 1973, and 1987.

Table 12: Cambridge Area Property Development

Period	Properties Built	Percentage Change
1941-45	15	
1946-50	110	633%
1951-55	120	9%
1956-60	164	37%
1961-65	124	-24%
1966-70	181	46%
1971-75	240	33%
1976-80	189	-21%
1981-85	75	-60%
1986-90	143	91%
1991-95	127	-11%

Easton

Both of the major highway construction projects in Talbot County — in 1947 and 1962 — appear to have spurred building booms in the area five miles around the City of Easton. Three years after the 1947 construction, the number of properties jumped five-fold. After the 1962 construction, development in this area rose 50% in two years.

D. Corridor vs. Non-Corridor Areas

After the bridge expansion, more development took place in the US-50 highway corridor than the non-corridor areas of the Eastern Shore. Excluding construction within the municipalities, 66% of properties in the highway corridor were built since 1973, while only 54% of properties in non-corridor areas were developed after the bridge expansion.

Also, the corridor is currently more developed than the non-corridor areas. 22% of the land in the corridor of Route 50 outside the cities is developed (not including roadways and roadside areas). This is double the 11% development in non-corridor regions of the surrounding counties.

Figure 21: Easton Area



Figure 22: Easton Area Property Development

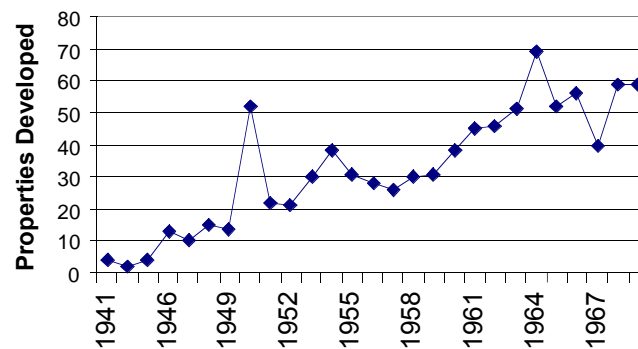


Table 13: Eastern Shore Corridor vs. Non-Corridor Development

	Corridor	Non-Corridor
Area in Acres	537,179	1,170,911
Protected Acres	58,492	172,510
Developable Acres	478,687	998,401
Developed Acres	106,116	107,306
% Total Area Developed	22.2%	10.7%

Table 14: Bridge Expansion and US-50 Corridor Development

	Properties Built in Highway Corridor	Percent of Total	Properties Built Outside of Hwy. Corridor	Percent of Total
Total	40,499		29,704	
Total since bridge expansion	26,552	66%	15,973	54%

PART THREE: FUTURE DEVELOPMENT

Sprawl has become an issue of major concern in Maryland in the past several years. With awareness of the problem have come some positive steps to prevent it from worsening as fast as it has in the past two decades. But the role of highway construction in creating sprawl has not been adequately addressed. If Maryland is to truly curb future sprawl development, we must curb the tendency to turn to highway projects to solve transportation challenges.

Governor Glendening has declared that Smart Growth will once again be the highest priority in his 2001 legislative agenda. Among other ideas in this package, he has announced his support for increased investment in mass transit. This is a positive step which will surely have a significant effect on future property development if it is effectively implemented. But attention should be paid as well to the planned highway construction projects which will also be influencing where future growth occurs and what it looks like. Increases in public transit funding alongside massive spending on highways will not effectively stop the sprawl.

At this stage, transportation planning is still primarily being steered by highway-dominated long range plans. The state's current six-year plan still only puts 22% of state funding toward transit programs.¹⁴ The plan is dominated by projects which would likely stimulate more sprawl development and further deepen the automobile-dependent structure of our cities. Many of these projects have been under consideration for many years and are now nearing completion. Others, however, are still in the engineering study phase. For these projects, there is time to slow down their development while giving higher priority to other transportation options.

In addition to the six-year plan, Maryland's longer range planning should be the focus of renewed scrutiny. The state's

twenty-year plan contains two projects in particular which would undoubtedly have major impacts on future development patterns. The proposed MD-32 widening in Howard County would create a new highway segment, turning what is now a two-lane surface road into a controlled-access freeway into one of the last large areas of relatively undeveloped land near the Baltimore-Washington corridor. The proposed I-95 widening, both north and south of Baltimore, would further facilitate long-distance commuting from areas which have been gradually sprawling for a long time.






Since county planners have been counting on these highway proposals to manage our future transportation needs, redirection will not be easy. But good alternatives do exist, and can be achieved through a collaborative process.

Portland, Oregon's Land Use, Transportation, Air Quality (LUTRAQ) project should prove instructive. In the 1980s, the anti-sprawl group 1000 Friends of Oregon put forward an alternative vision to Portland's Western Bypass, a long-planned project considered by most observers to be a done deal. The proposal looked beyond transportation infrastructure and laid out detailed plans on how pedestrian-friendly neighborhoods could be built near transit stations. The Oregon Department of Transportation included the group's proposal as one of five alternatives on the Bypass, and ultimately found it favorable to all others, marking what may have been the first time a major transportation question was met with a land use response. Most of the LUTRAQ recommendations are now integrated within the Portland region's forty-year plan.¹⁵

Similarly, the Citizens Planning Association worked with Montgomery County's planning staff to develop a "Balanced Land Use" plan as an alternative growth scenario for that jurisdiction. The plan relies on boosted transit and coordinated land use, steering residential and employ-

ment growth toward walkable communities served by the expanded transit system. Although it is still in development, the plan shows promise, yielding 8% fewer vehicle miles transit and a 25% decrease in travel times compared with projections under current plans over the next 50 years.

If sprawl is to be effectively curbed in Maryland, these types of projects need to become the norm, rather than the exception. Transportation planning needs to make heavy use of public transit and involve urban planning which decreases the need for cars.

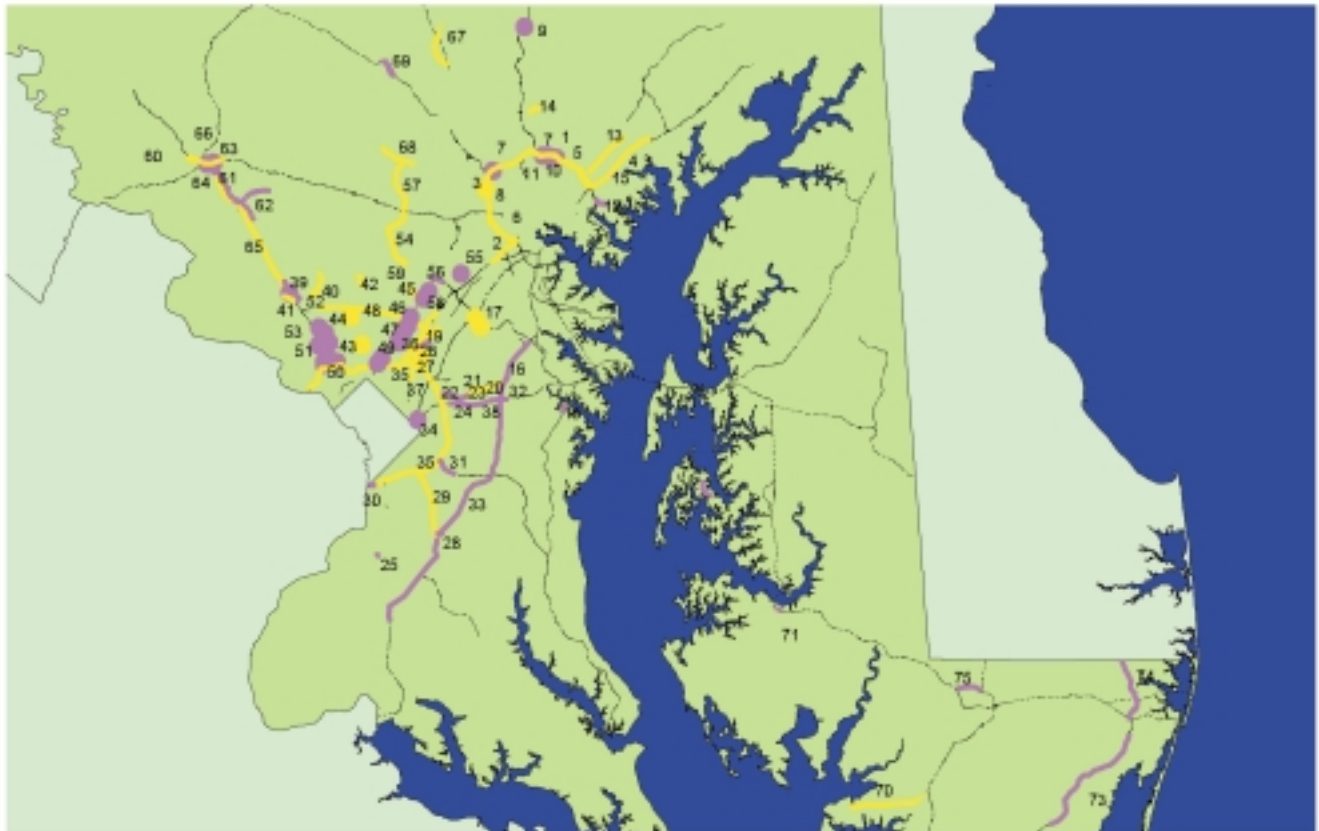
-  Highway project underway
-  Highway project in study
-  Interchange project underway
-  Interchange project in study
-  Major roads

Highway Projects

1. I-695 from I-95(s) to I-83 to I-95(n) (widening) — study
2. I-95 from Howard Co line to I-695 (widening) — study
3. I-695, Washington Ave/MD 26 intersection (capacity improvements) — underway
4. I-95 from I-695 to Harford Co line (widening) — study
5. I-695 from I-83 to I-95 and from I-95 to I-70 (widening) — study
6. I-695 from MD144 to I-95 (widening) — underway
7. I-695, MD45 and MD140 interchanges (widening) — underway
8. I-695, MD26 interchange (widening) — study
9. I-83, MD 45 bridge (widening) — underway
10. I-695, Providence Rd bridge (widening) — underway
11. I-695, MD156 bridge (widening) — underway

(List continues on next page)

Figure 23: Highway Projects in Study and under Construction



Highway Projects (continued)

12. New highway between MD140 and US50 (new construction) — underway
13. US1 from MD43 to MD152 (widening) — study
14. MD145 relocate MD45 to Hunters Run Rd (reconstruction) — study
15. MD7 from MD43 to Campbell Blvd (widening) — underway
16. MD3 from MD32 to US50 (widening) — underway
17. MD32, interchange expansions at MD198, Canine and Samford Rd — underway
18. MD2 from 214 to Virginia Ave (widening) — underway
19. I-95 PG Co line to Howard Co line (widening) — study
20. MD 450 from Stony Brook Dr to MD3 (widening) — study
21. MD 450 from Bell Station Rd to Stony Brook Dr (widening) — study
22. MD 450 from Whitfield Chapel to Sea Brook Rd (widening) — underway
23. MD 450 from Seabrook to MD193 (reconstruction) — underway
24. MD 450 from MD 193 to Bell Station (reconstruction) — underway
25. MD 228 from MD210 to Mattawoman Creek (widening) — underway
26. MD 212 from US1 to I-95 (new construction) — underway
27. MD201 (extended) from I-495 to MD198 (new construction) — study
28. MD5 interchange improvements at MD373 (widening) — underway
29. MD5 from MD301 to I-495 (widening) — study
30. I-95/I-495 Woodrow Wilson Bridge (expansion) — underway
31. MD4 from MD223 to I-95/I-495 (widening) — underway
32. MD3 from US50 to MD32 (widening) — underway
33. MD301 from MD301/US50 interchange to La Plata (widening) — underway
34. US 50 interchange improvements at Columbia Park Rd. (widening) — underway
35. I-95/I-495 corridor from American Legion Br to W. Wilson Br (widening) — study
36. US1 interchange improvements at MD212 (widening) — study
37. US1 from College Ave to Sunnyside Ave (widening) — study
38. US50 from MD301 to I-495/I95 (widening) — underway
39. MD355 from 124 to Middlebrook Rd (widening) — underway
40. MD124 from Mid-County Highway to Warfield Rd (reconstruction) — study
41. MD117 from Seneca State Park to 270 (intersection widening) — study
42. MD97 from south of Brookeville to north of Brookeville (new construction) — study
43. MD97 at Randolph Rd (interchange expansion) — study
44. MD97 at Norbeck Rd/MD28 (interchange expansion) — study
45. US29 interchange improvements at Stewart Ln, Musgrove Rd, Greencastle Rd, and Tech Rd — underway
46. US29 at 198 (interchange expansion) — underway
47. US29 at Briggs Chaney Rd (interchange expansion) — underway
48. Inter County Connector, between US1 and MD370 (new construction) — study
49. US29 at Randolph Rd (interchange expansion) — underway
50. I-95/I-495 throughout Montgomery County and PG County (widening) — study
51. I-270 interchange expansions at various locations in Rockville — underway
52. MD117 interchange expansions at I-270 (widening) — underway
53. MD28, interchange expansions at MD355/ Middle Ln, MD355/MD28, and MD28/ MD586/MD911 — study
54. MD32 from MD108 to I-70 (widening) — study
55. MD175 at Snowden River Parkway (interchange expansion) — underway
56. MD32 from US29 to Broken Lane Parkway (widening) — underway
57. MD32 from MD108 to MD26 in Carroll County (widening) — study
58. US29, interchange expansion at MD216 and at Gorman Rd — underway
59. MD216 from west of I-95 to US29 (reconstruction) — study
60. I-70 from MD144 to Mt. Phillip Rd (widening) — study
61. MD85 from Spectrum to English Muffin Dr (widening) — study

62. Reconstruct MD80 and MD355 on location east of I-270 (reconstruction, widening) — underway
63. I-70 interchange expansion at MD355 and MD85 — underway
64. I-70 and I-270 interchange expansion — underway
65. I-270 corridor transit study in Frederick and Montgomery Counties (expansion) — study
66. MD475 from South St to Walser Dr (widening) — study
67. MD30 from south of Hampstead to north of Hampstead (new construction) — study
68. MD26 from Liberty Rd Reservoir and MD97 (widening) — study
69. MD140 expansion of bridges over MD97 and MD27 — underway
70. MD363 from Halls Curve to St. Stephen (widening) — study
71. US50 from Woods Rd to Bucktown Rd (widening) — underway
72. MD33 from Yacht Club Rd to north of Lincoln Ave (new construction) — underway
73. US113 from MD394 to south of Berlin (widening) — underway
74. US113 from US50 to Delaware St line (widening) — underway
75. US50 Salisbury Bypass (new construction) — underway

METHODOLOGY

Where is the property development data from?

All property maps and calculations were derived from the “MdProperty View” data maintained by the Maryland Department of Planning. This resource, developed for use by both urban planners and property sales professionals, is based on the Maryland State Department of Assessments and Taxation’s parcel database and encoded with geographical information in GIS format. It contains information supplied by Maryland’s 24 county-level jurisdictions on all properties in the State of Maryland, including information on the size of the property, the year it was developed, and the type of land use.

Within MdProperty View, we only looked at non-agricultural commercial and residential properties. To get this data set, we excluded the following sets of properties:

- Properties with a land use marked as agricultural or marshland.
- Tax-exempt properties larger than ten acres. These are mostly large government tracts of land, in addition to church retreat centers, scout club campgrounds, and similar facilities.
- Properties larger than ten acres containing no buildings.

We also excluded all properties which were missing information on when the property was developed. Unfortunately, this constitutes a substantial portion of the data, ranging from 10% to 25% in different areas. However, we were unable to identify any bias in the properties with missing information. There were no distinct geographical clusters, and there was no trend of older neighborhoods having more or less records with incomplete information than newer neighborhoods. We therefore assume that our conclusions based on the 75% to 90% of the data with complete information are equally appli-

cable to the rest of the data. Properties which the Department of Planning was unable to locate geographically are also excluded from our analysis, but these constitute an insignificant portion of the data.

What defines a highway?

This report analyzes only highways which are controlled access highways, with interchanges rather than traffic lights. While major roads with high speed limits and few traffic lights are often considered highways and likely have similar effects, the greatest extent of these effects can best be measured with the most extreme example of roads as rapid transit.

The exception is US-50 on the Eastern Shore. Until recently, Route 50 still had some traffic lights and significant speed reductions through the cities. However, the entire history of Route 50 was considered, as it has been the only major throughway traversing the Eastern Shore.

What defines a highway corridor?

Highway corridors are defined as all areas within five miles of a radial highway or within three miles of the beltways, excluding the five miles nearest Baltimore and Washington. Five miles was judged to be the approximate average limit a commuter would travel perpendicular to a highway in order to take advantage of the faster speeds of highways. Since beltways do not stretch as far in a consistent direction, this limit is assumed to be less for beltways.

This is not meant to imply that the effects of highways remain high up to three or five miles away and then take a steep decline. Rather, we expect there are measurable spillover effects of highways far beyond five miles. But a threshold was needed in order to have a consistent and measurable distinction between the areas near the highways and those not close to a highway.

Since nearly all of the land within five miles of Baltimore and Washington is

within five miles of a highway, there is not a significant amount of non-corridor area in these regions to compare to the highway corridors. To have included these rings around the cities would have weighted the highway corridors toward the immediate surroundings of the cities, resulting in a near vs. far comparison rather than a corridor vs. non-corridor comparison.

What is the date built for the highways?

Most highways were not built in a single year. They were built in segments, sometimes with a span of decades from start to finish. The construction year of each segment of highway was obtained from the Pavement Management Information database of the Maryland State Highway Administration.

For this analysis, we marked the record for each developed property with the year of the first highway segment built within five miles (or beltway within three miles). To begin, we selected all properties within five miles of the first highway segment built in Central Maryland and marked those properties with the year that highway segment was built. We then selected all properties within five miles of the second highway, excluded properties which had already been marked with the construction year of the first highway, and marked the remaining properties with the construction year of the second segment. This procedure was repeated for all highway segments in the study area in chronological order. The same process was used for the US-50 segments on the Eastern Shore.

Thus, “adjacent section of highway” everywhere the phrase is used in this report refers to the first section of highway built within five miles of the property (three miles for the beltways). This is not necessarily the nearest segment of highway, as another segment may have been built closer to the property at a later date.

In order to determine whether a highway existed near the property when the property was developed, the first nearby highway segment is a more relevant measure than the nearest highway segment.

Since not all highway segments in each county were built at the same time, how was it determined which properties were built before and after the highways?

The before and after highway development maps are not snapshots of any particular year or range of years. They represent all currently-developed properties which were built when there were no highways nearby (before) or when there was already a highway nearby (after). This was determined by comparing, for each property, the year the property was built with the year the first nearby segment of highway was built. Those built before the first nearby section of highway are in one group and those built after are in the other.

For those properties outside of the highway corridors, there is, by definition, no nearby segment of highway. Instead, we selected the segment of highway which is the most relevant to each non-corridor area. In most cases, it is the nearest highway segment. In places where there are many small highway segments in the area, we chose the longest segment leading from the non-corridor area toward the major metropolitan areas.

APPENDIX: HIGHWAY CONSTRUCTION DATES

Montgomery County

<u>Highway</u>	<u>Year</u>	<u>Lanes</u>	<u>Miles</u>	<u>Lane-Miles</u>	<u>Type</u>
I-270	1954	4	15.5	62.0	Original Construction
I-270	1958	4	7	28.0	Original Construction
I-495	1964	6	14.4	86.4	Original Construction
I-495	1972	2	4.8	9.6	Widening
I-270	1972	1	3.9	3.9	Widening
I-270	1973	1	7.2	7.2	Widening
I-495	1989	2	3.4	6.8	Widening
I-270	1990	12	0.8	9.6	Reconstruction
I-495	1991	2	3.7	7.4	Widening
I-270	1991	1	14	14.0	Widening
I-270	1997	1	4	4.0	Widening

Frederick County

<u>Highway</u>	<u>Year</u>	<u>Lanes</u>	<u>Miles</u>	<u>Lane-Miles</u>	<u>Type</u>
I-270	1953	4	10.1	40.4	Original Construction
I-70	1954	4	8.6	34.3	Original Construction
I-70	1958	4	2.1	8.2	Original Construction
I-70	1968	4	14.7	58.6	Original Construction
I-70	1973	1	8.6	8.6	Widening

Howard County

<u>Highway</u>	<u>Year</u>	<u>Lanes</u>	<u>Miles</u>	<u>Lane-Miles</u>	<u>Type</u>
I-70	1952	4	12.7	50.8	Original Construction
US-29	1953	4	4.2	16.8	Original Construction
US-29	1967	4	5.1	20.4	Original Construction
I-95	1968	8	11.6	92.8	Original Construction
I-70	1968	4	6.8	27.1	Original Construction
I-70	1974	1	13.7	13.7	Widening
MD-32	1985	4	7.4	29.6	Original Construction
US-29	1992	2	2.2	4.4	Widening
US-29	1995	2	2.5	5.0	Widening
MD-32	1995	2	3.0	6.0	Widening
MD-32	1996	4	3.1	12.4	Original Construction

Prince George's County

<u>Highway</u>	<u>Year</u>	<u>Lanes</u>	<u>Miles</u>	<u>Lane-Miles</u>	<u>Type</u>
MD-295	1954	4	12.4	49.4	Original Construction
I-95	1961	6	2.9	17.4	Original Construction
US-50	1961	4	4.9	19.6	Original Construction
I-495	1964	6	25.0	150.0	Original Construction
I-95	1970	8	8.0	64.0	Original Construction
I-495	1971	2	1.8	3.5	Widening
I-95	1972	1	24.0	24.0	Widening

Prince George's County (cont'd)

<u>Highway</u>	<u>Year</u>	<u>Lanes</u>	<u>Miles</u>	<u>Lane-Miles</u>	<u>Type</u>
US-50	1986	1	1.5	1.5	Widening
US-50	1991	6	9.5	56.9	Original Construction
I-95	1993	1	1.2	1.2	Widening

Anne Arundel County

<u>Highway</u>	<u>Year</u>	<u>Lanes</u>	<u>Miles</u>	<u>Lane-Miles</u>	<u>Type</u>
I-32	1950	4	1.1	4.4	Original Construction
I-295	1951	4	9.8	39.2	Original Construction
US-50	1952	4	9.3	37.0	Original Construction
I-295	1954	4	6.2	24.8	Original Construction
I-695	1956	4	1.3	5.3	Original Construction
I-97	1957	4	0.6	2.4	Original Construction
I-695	1961	4	0.8	3.0	Original Construction
I-695	1967	4	0.6	2.4	Original Construction
I-695	1971	4	1.8	7.0	Original Construction
MD-32	1972	4	2.7	10.8	Original Construction
I-97	1972	2	1.8	3.6	Original Construction
US-50	1974	1	4.5	4.5	Widening
I-695	1976	1	1.3	1.3	Widening
MD-32	1985	4	1.2	4.8	Original Construction
I-97	1987	4	5.7	22.6	Original Construction
US-50	1990	6	1.1	6.6	Original Construction
I-97	1990	6	6.2	36.9	Original Construction
I-695	1990	6	1.0	6.0	Reconstruction
I-695	1990	2	1.1	2.2	Widening
MD-32	1991	4	6.5	26.0	Original Construction
US-50	1991	1	4.8	4.8	Widening
US-50	1994	6	6.7	40.2	Original Construction
I-97	1995	6	1.5	9.0	Original Construction
I-97	1997	6	2.9	17.4	Original Construction

Baltimore County

<u>Highway</u>	<u>Year</u>	<u>Lanes</u>	<u>Miles</u>	<u>Lane-Miles</u>	<u>Type</u>
I-95	1955	4	5.1	20.4	Original Construction
I-695	1955	4	4.5	18.0	Original Construction
I-83	1955	4	14.1	56.4	Original Construction
I-695	1959	4	1.1	4.4	Original Construction
I-83	1959	4	8.8	35.2	Original Construction
I-695	1961	4	8.2	32.7	Original Construction
I-695	1962	4	16.2	64.8	Original Construction
I-83	1962	4	4.2	16.8	Original Construction
I-95	1963	6	6.5	39.0	Original Construction
I-70	1967	6	4.8	28.6	Original Construction

Highway Construction Dates

Baltimore County (continued)

<u>Highway</u>	<u>Year</u>	<u>Lanes</u>	<u>Miles</u>	<u>Lane-Miles</u>	<u>Type</u>
I-95	1967	4	2.5	10.0	Widening
I-695	1967	1	26.3	26.3	Widening
I-695	1970	4	7.8	31.2	Original Construction
I-95	1971	8	3.6	28.8	Original Construction
I-95	1971	4	5.8	23.2	Widening
I-695	1971	1	2.5	2.5	Widening
I-83	1974	2	2.6	5.2	Widening
I-83	1976	2	6.6	13.2	Widening
I-695	1983	1	5.2	5.2	Widening
I-795	1985	6	4.0	24.0	Original Construction
I-795	1986	4	5.0	20.0	Original Construction
I-695	1987	1	1.0	1.0	Widening
I-95	1991	2	8.6	17.2	Widening
I-695	1996	1	1.5	1.5	Widening
I-695	1998	1	3.7	3.7	Widening

US-50 on the Eastern Shore

<u>Year</u>	<u>Lanes</u>	<u>Miles</u>	<u>Lane-miles</u>	<u>Type</u>	<u>County</u>
1942	4	2.5	10.0	Original Construction	Worcester
1946	2	9.6	19.2	Original Construction	Dorchester
1947	2	24	48.0	Original Construction	Talbot
1950	4	3.6	14.4	Original Construction	Worcester
1951	2	3.6	7.2	Original Construction	Dorchester
1952	4	3.8	15.2	Original Construction	Queen Annes
1952	2	8.7	17.4	Original Construction	Wicomico
1952	2	1.3	2.6	Original Construction	Wicomico
1953	4	11.2	44.8	Original Construction	Queen Annes
1954	4	2.5	10.0	Original Construction	Wicomico
1955	2	3.5	7.0	Original Construction	Dorchester
1959	4	3.2	12.8	Original Construction	Worcester
1962	2	24	48.0	Original Construction	Talbot
1965	4	16.1	64.4	Original Construction	Wicomico
1965	4	5	20.0	Original Construction	Worcester
1966	2	9.6	19.2	Original Construction	Dorchester
1967	2	1.5	3.0	Original Construction	Wicomico
1967	2	8.9	17.8	Original Construction	Wicomico
1978	1	0.7	0.7	Widening	Queen Annes
1987	4	1.2	4.8	Original Construction	Talbot
1988	6	1.3	7.8	Reconstruction	Dorchester
1989	4	2.3	9.2	Original Construction	Wicomico
1990	1	3.8	3.8	Widening	Queen Annes
1990	4	2.4	9.6	Original Construction	Dorchester
1991	1	3.4	3.4	Widening	Queen Annes
1991	6	1.3	7.8	Original Construction	Queen Annes

NOTES

1. Highway data from Maryland State Highway Administration, *Pavement Management Information Database*, 2000. Population data from Robert Famighetti (ed.), *World Almanac and Book of Facts: 1996* (Mahwah, NJ: Funk & Wagnalls, 1995).
2. All statistics in this report not otherwise cited are from an analysis by the MaryPIRG Foundation of the Maryland Department of Planning's *MdProperty View* database, with information from the Maryland State Highway Administration's *Pavement Management Information* database.
3. \$1.7 billion: Maryland State Highway Administration, *Consolidated Transportation Program: 2000 State Report on Transportation, FY 2000 – 2005*, 17 January 2000. \$2.7 billion: Baltimore Regional Transportation Board, *Baltimore Regional Transportation Plan*. Quotes: "Consolidated Transportation Program."
4. Maryland Department of Planning, *Smart Growth 2000: What We've Done, Where We're Going*, downloaded from www.op.state.md.us/smartgrowth/smart99.htm, 27 October 2000.
5. American Farmland Trust and the Georgia Conservancy, *An Uneven Playing Field: How Public Policies Favor Suburban Sprawl Over Downtown Development in Metropolitan Atlanta*, January 1999.
6. Marlon G. Boarnet and Andrew F. Haughwout, Brookings Institution Center on Urban and Metropolitan Policy, *Do Highways Matter?: Evidence and Policy Implications of Highways' Influence on Metropolitan Development*, August 2000.
7. Todd Litman, Victoria Transport Policy Institute, *Land Use Impact Costs of Transportation*, 8 June 1999.
8. See note 1.
9. See methodology for definition of "adjacent segment of highway."
10. "Available land" includes all land which does not have local, state, or federal protected land status, as listed in the *Statewide Protected Lands* database of the Maryland Department of Natural Resources.
11. Harry Dimitriou, *Urban Transport Planning* (New York: Routledge, 1993), 136, as cited in Todd Litman, Victoria Transport Policy Institute, *Land Use Impact Costs of Transportation*, 8 June 1999.
12. See methodology for definition of "adjacent section of highway."
13. The study area for Easton Shore property development includes all counties from Queen Anne's County south, the area surrounding US-50.
14. State funding for the Mass Transit Administration (MTA) and the Washington Metropolitan Area Transit (WMAT) in the Maryland Consolidated Transportation Plan: State Highway Administration, *Consolidated Transportation Plan: 2000 State Report on Transportation, FY 2000 – 2005*, 17 January 2000.
15. 1000 Friends of Oregon, *Making the Land Use, Transportation, Air Quality Connection (LUTRAQ) — Freeways or Communities: It's Your Choice*, downloaded from www.friends.org/resources/pdfs/itsyourc.pdf, 30 October 2000; 1000 Friends of Oregon, *Making the Connections: A Summary of the LUTRAQ Project*, February 1997.