

Appendix 6: Prototypical Development Patterns

VISION 2030: SHAPING OUR REGION'S FUTURE TOGETHER
FINAL REPORT

PREPARED BY

ACP – VISIONING & PLANNING
THE ENVIRONMENTAL SIMULATION CENTER

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Prototypical Development Patterns, Scenarios and Indicators

Three Development Patterns

Vision 2030 has identified three development patterns. These development patterns reflect trends that are occurring in the Baltimore region or that are emerging nationwide. They have different implications for land consumption, mix of housing types, and proximity of jobs, shopping, and entertainment.

Type A: Conventional development pattern on undeveloped land

The first development pattern implies a continuation of how the region is growing today. In this type of pattern:

- Residential development occurs mostly as single-family homes.
- Subdivisions offer homes of similar size and cost;
- People live farther apart and can have more privacy.
- Homes, shops, small businesses and institutions are separated by functions.
- Residents tend to rely on private automobiles for transportation.
- Substantial new land is consumed. The amount of new land necessary to accommodate 1,000 households – with supporting commercial, schools and open space – is 750 acres.

Type B: Mixed-use walkable community on undeveloped land

The second development pattern assumes the creation of more compact walkable neighborhoods, with shopping, entertainment, and employment nearby. In this type of pattern:

- The majority of the homes remain single family. Lots are smaller on average, particularly in proximity to mixed-use town centers.
- Neighborhoods offer a variety of housing choices as homes of different size and cost are grouped together;
- People live closer together which can encourage more of a sense of community.
- Homes, shops, small businesses and institutions are grouped together in town centers.
- Neighborhoods are walkable and can sustain public transportation, in addition to the private automobile.
- New land consumption is lower than in Type A. The amount of new land necessary to accommodate 1,000 households – with supporting commercial, schools and open space – is 277 acres.

Type C: Mixed-use walkable communities on redeveloped land

The third development pattern also assumes the creation of more compact walkable communities but on redeveloped land. In this type of pattern:

- Residential development occurs as a combination of single family, town homes and apartments. Homes are closer together than in Type A and B.
- Neighborhoods offer the widest variety of housing choices.
- Homes, shops, small businesses and institutions are grouped together within existing urban areas.
- Neighborhoods are walkable and are served by public transportation in addition to the private automobile.
- No new land is used. Existing land necessary to accommodate 1,000 households – with supporting commercial, schools and open space – is 228 acres.

Four Scenarios

Vision 2030 has identified four scenarios designed to offer wide choices for the future of our region. The scenarios accommodate forecasted population and employment growth for the region by using variations on the three development patterns. The scenarios represent “what ifs...,” hypothetical situations, and are deliberately designed to offer a wide range of growth options.

The population and employment forecasts are projected to the year 2030. Over that period, the region’s population is expected to reach a total of 2,740,721 residents, an 11 percent growth (an additional 200,699 households). In the same period, 219,186 new jobs will be added to the region for a total of 1,641,982 jobs.

Scenario 1: Current trends and plans

This scenario follows the existing Baltimore Metropolitan Council’s 2025 plan that includes two new rail lines for a total of additional 31 rail miles. It shows how the region would develop if the current patterns of dispersed development were to continue. The mix of development patterns for this scenario is as follows:

Type A: Conventional development pattern on undeveloped land	90%
Type B: Mixed-use walkable communities on undeveloped land	5%
Type C: Mixed-use walkable communities on redeveloped land	5%

Because of the predominance of the Type A development pattern, most development would occur in the form of single family homes with focus remaining on the convenience for the private automobile. This scenario will use 138,316 acres of new land to accommodate forecast growth.

Scenario 2: Emphasis on road capacity

This scenario shows one way the region could develop if emphasis were given to the expansion of existing road capacity. Public transportation levels remain at current levels while an additional 769 new road lane miles are added. The mix of development patterns in this scenario is as follows:

Type A: Conventional development pattern on undeveloped land	75%
Type B: Mixed-use walkable communities on undeveloped land	20%
Type C: Mixed-use walkable communities on redeveloped land	5%

The majority of development is likely to continue in the form of single family homes. Due to changing demographics, more mixed-use walkable developments (Type B) could occur on new land. This scenario consumes 124,070 acres to accommodate forecast growth.

Scenario 3: Emphasis on mass transit

This scenario shows how the region would develop if emphasis were given to the expansion of mass transit and buses. Road capacity would remain at current levels while an additional 68 miles of rail would be added. The mix of development patterns in this scenario is as follows:

Type A: Conventional development pattern on undeveloped land	25%
Type B: Mixed-use walkable communities on undeveloped land	37.5%
Type C: Mixed-use walkable communities on redeveloped land	37.5%

The majority of development would be in the form of mixed-use walkable neighborhoods (both Type B and C). Transportation and housing choices will increase. This scenario consumes 58,506 acres of new land to accommodate forecast growth.

Scenario 4: Emphasis on redevelopment

This scenario shows how the region would develop if emphasis were given to the redevelopment of existing land. Road capacity would remain at current levels while rail capacity includes the 31 additional rail miles projected for the year 2025 (see Scenario 1). The mix of development patterns in this scenario is as follows:

Type A: Conventional development pattern on undeveloped land	20%
Type B: Mixed-use walkable communities on undeveloped land	20%
Type C: Mixed-use walkable communities on redeveloped land	60%

The majority of development would be in the form of mixed-use neighborhoods (Type B and C) with over half of the growth focused on existing communities. Homes are closer together than in the other three scenarios. New land consumed in this scenario is 41,243 acres to accommodate forecast growth.

Ten Indicators

The comparison of the four scenarios was measured through a complex computer modeling process. The description of the indicators used to predict the performance of each scenario follows. Indicators fall into two categories: Quality of Life and Transportation.

Quality of Life Indicators

Acres of new land consumed – The amount of new land consumed by each scenario is based on the proportion of housing built in each of the three development patterns. New land is defined as previously undeveloped agricultural or forest land.

Percentage of new neighborhoods that provide housing choices – Housing choices are defined as a variety of housing types (single family, townhouses, and apartments) likely reflecting range of prices.

Vehicle emissions – Air pollution from motor vehicles is roughly proportional to vehicle miles of travel. Two of the scenarios – Emphasis on Mass Transit and Emphasis on Redevelopment – result in significantly lower levels of vehicle travel than the other two scenarios resulting in lower emissions.

Impact on water quality – Maryland regulations on new development are very stringent to prevent negative impacts on water quality but runoff from existing developments is a significant source of water pollution. Redevelopment in existing communities requires improvement in stormwater management and, therefore, will improve water quality over existing conditions.

Transportation Indicators

Additional time in autos – The computer model calculates vehicle travel times and average auto occupancy levels. The results were used to calculate the additional time spent in autos per person per year by the year 2030.

Annual consumption of gasoline – The computer model calculates vehicle miles of travel for each scenario. The results were used to translate travel into gallons of gasoline and dollars. Fuel efficiency has declined in recent years. Fuel prices have ranged widely. Current numbers were used: \$1.30 a gallon for gasoline and 20.4 miles per gallon.

Increase in walking trips – The transportation model estimates the number of trips by each mode – walking, rail, bus and auto.

Increase in bus and rail trips – Same as previous.

Percentage of new households that can walk to rail or bus stop – New households are considered within walking distance of transit if they are within a quarter mile of a bus route and/or one mile of a rail station.

Percentage of new jobs accessible to transit – Same as previous.