

# APPENDIX C

## DEVELOPMENT SUITABILITY ANALYSIS

The development suitability analysis was performed using the CommunityViz software plugin for ArcGIS and data sets provided by the City of Franklin. Relative suitability was calculated for nine individual suitability factors. These factors were then weighted to calculate an overall suitability score for each parcel in the Urban Growth Boundary. Suitability scores are calculated as a number between 0 and 100, with higher scores representing greater development suitability. The suitability scores are relative, and parcels with low suitability scores may not be considered to be totally undevelopable. It may be that a large portion of the site is undevelopable but not the whole site. Also, as utility infrastructure is extended, and roadways are constructed or improved, development suitability may change.

### Suitability Factors

Nine suitability factors were used in the analysis, they include: floodway and floodplain; hillsides and hilltops; fire stations; sewer service; employment centers; commercial centers; stream buffers; primary thoroughfares; secondary thoroughfares.

### Factor Type

Two types of factors were used in the analysis. The first type is proximity based; the closer the parcel is to the target area for each factor (i.e. commercial center, thoroughfare, fire station), the higher the suitability score. The second type of factor is overlay based. For these factors, the amount of overlap between the parcel and the target area (i.e. floodplain, hillside) is calculated. Parcels with higher amounts of overlap result in lower suitability scores. Figure C.1 is a summary of the suitability factors and their respective types.

### Factor Weighting

Individual suitability factors were weighted to calculate the overall suitability scores. Physical development constraints (i.e. flood-prone land, hillsides and hillcrests, and stream buffers) were weighted more heavily than the majority of the proximity measures (i.e. proximity to employment centers, primary thoroughfares, and fire stations, for example). Proximity to sewer service was also weighted heavily since the lack of sewer service significantly impacts the intensity of development that the land can support. Factor weighting is included in Figure C.1.

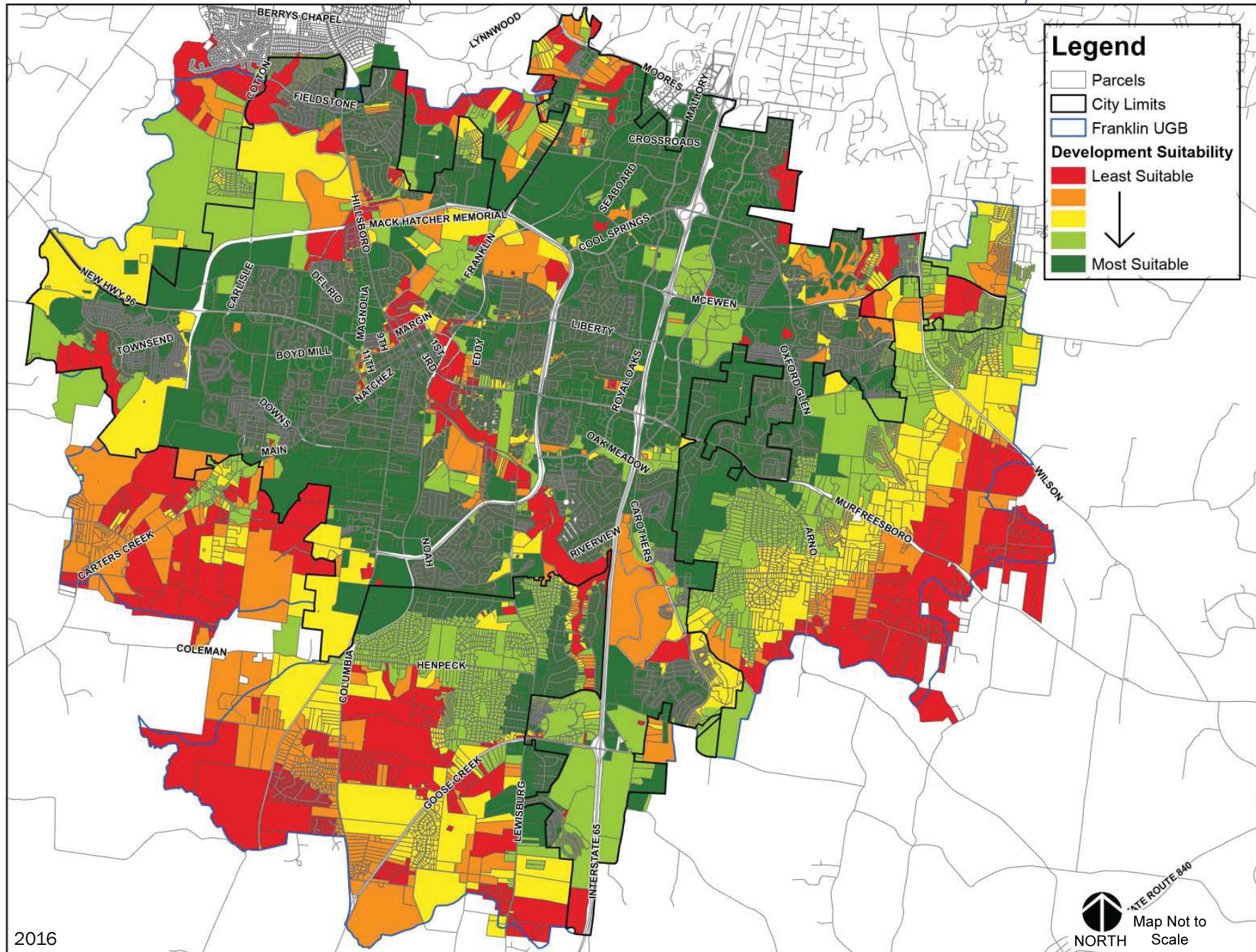
Figure C.2 depicts the results of the land suitability analysis. It is a combination of the nine individual factors and takes into account the factor weighting. Individual maps for each factor can be found on the following page in Figures C.3 through C.11.

FIGURE C.1: LAND USE SUITABILITY FACTOR SUMMARY

FACTOR	DESCRIPTION	TYPE	WEIGHT
Floodway and Floodplain	Special Flood Hazard Areas defined as the area to be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year (Zones A and AE).	Amount of Overlap	9.0
Hillsides and Hilltops	Defined as areas included in the Hillside/Hillcrest Overlay (HHO) District.	Amount of Overlap	9.0
Fire Stations	Locations included in the Franklin "FireStations" shapefile.	Proximity	2.0
Sewer Service	Sewer lines as included in the Franklin "WwtGravityPipe" and "WwtPressurizedPipe" shapefiles.	Proximity	7.5
Employment Centers	Defined as the McEwen character area.	Proximity	1.0
Commercial Centers	Groups of non-office commercial land use as determined by the "GLU" designation on the "PARCELSLCS" shapefile.	Proximity	1.0
Stream Buffers	Areas included within a 60-foot buffer on either side of streams.	Amount of Overlap	4.0
Primary Thoroughfares	Interstate 65 and Mack Hatcher Parkway.	Proximity	2.5
Secondary Thoroughfares	Thoroughfares with access to Interstate 65 (Moores Lane, Cool Springs Blvd., McEwen Drive, SR 96/Murfreesboro Road, Peytonsville Road/Goose Creek Bypass)	Proximity	1.5

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FIGURE C.2: LAND USE SUITABILITY MAP (INCLUDES ALL FACTORS AND REFLECTS FACTOR WEIGHTING)



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FIGURE C.3: LAND USE SUITABILITY - FLOODWAY AND FLOODPLAIN

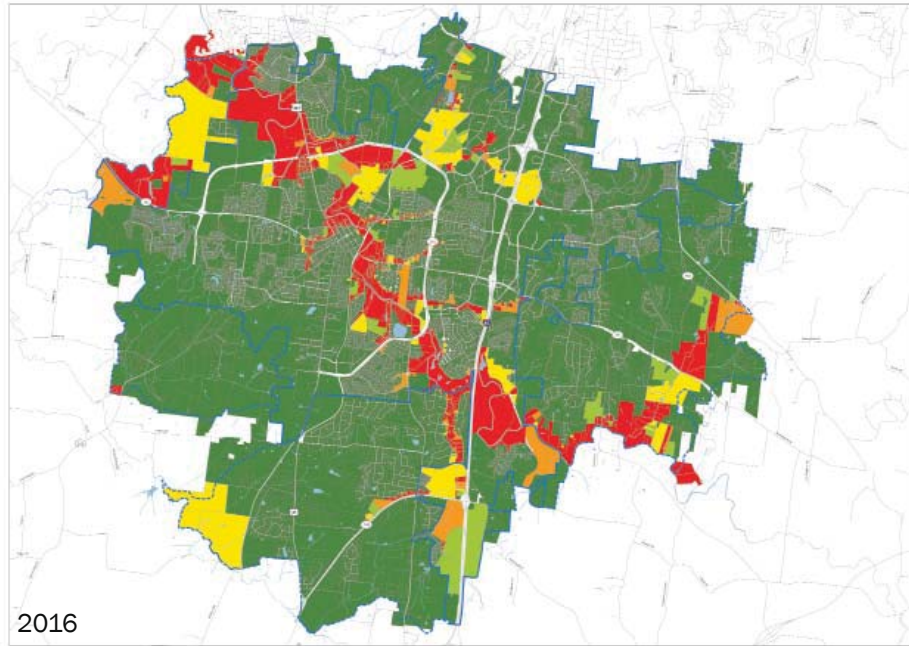


FIGURE C.4: LAND USE SUITABILITY - HILLSIDES AND HILLTOPS

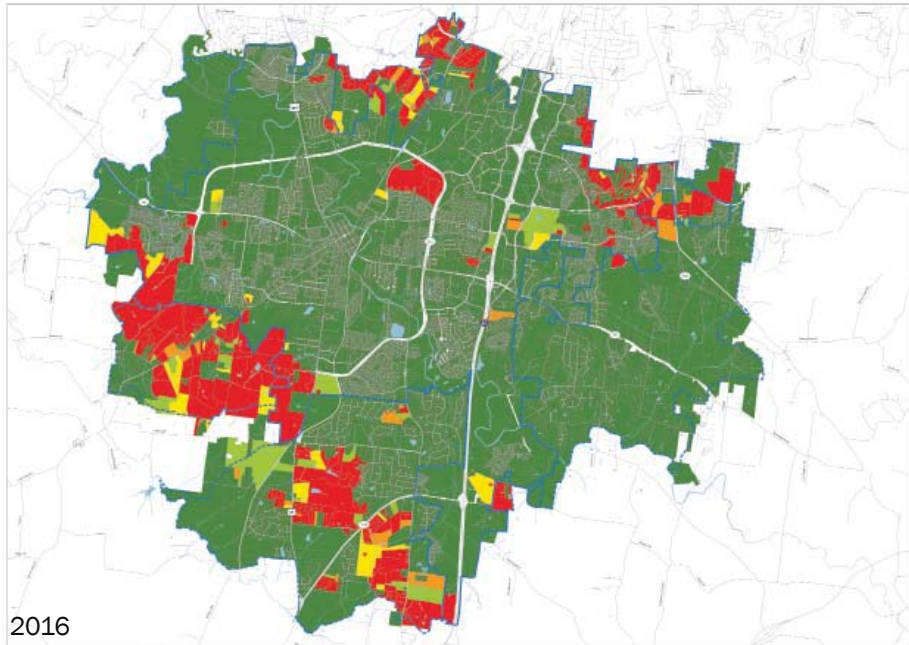


FIGURE C.5: LAND USE SUITABILITY - FIRE STATIONS

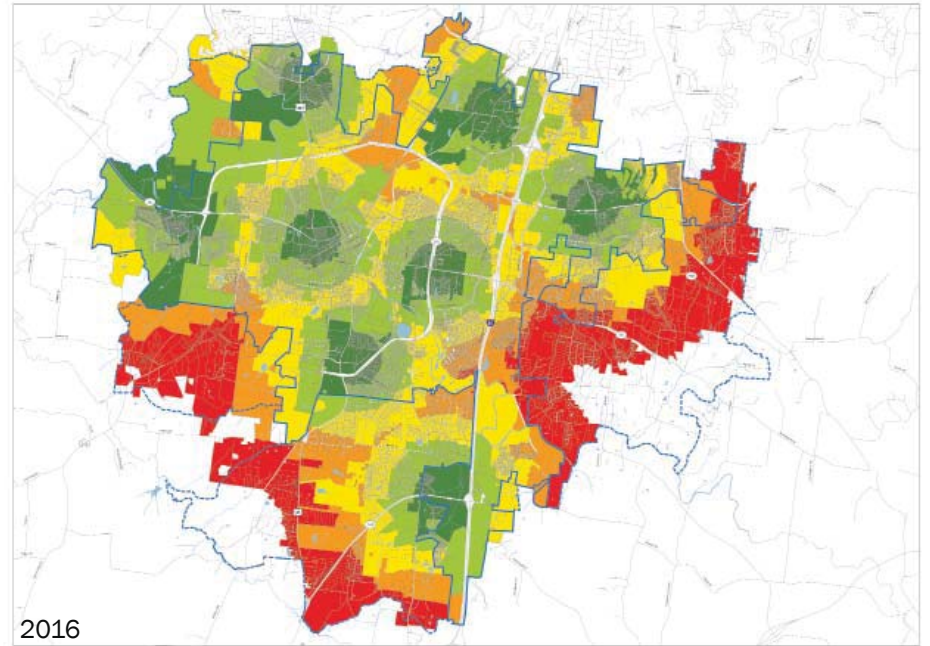
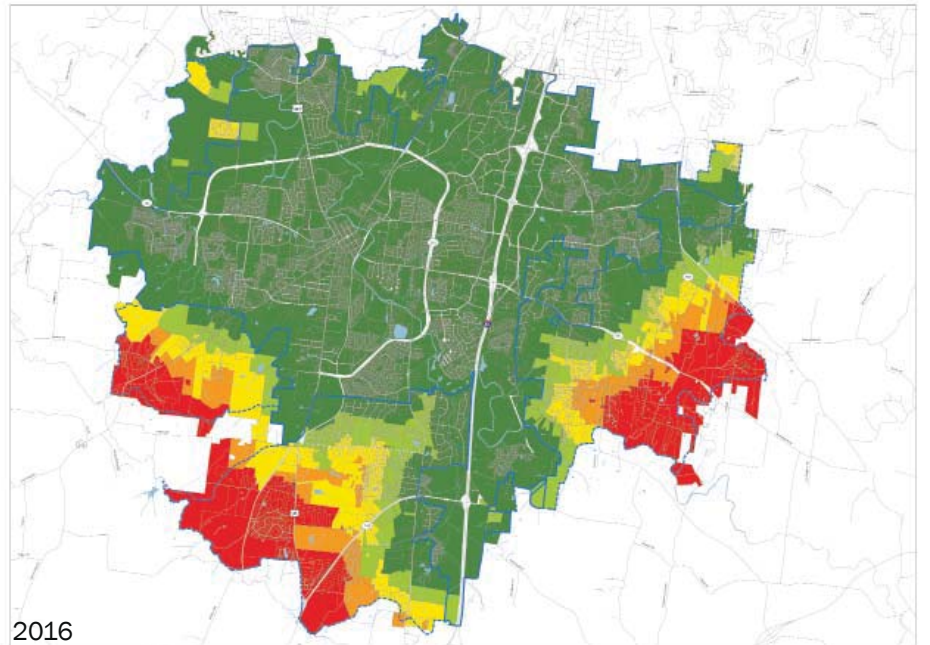


FIGURE C.6: LAND USE SUITABILITY - SEWER SERVICE



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FIGURE C.7: LAND USE SUITABILITY - EMPLOYMENT CENTERS

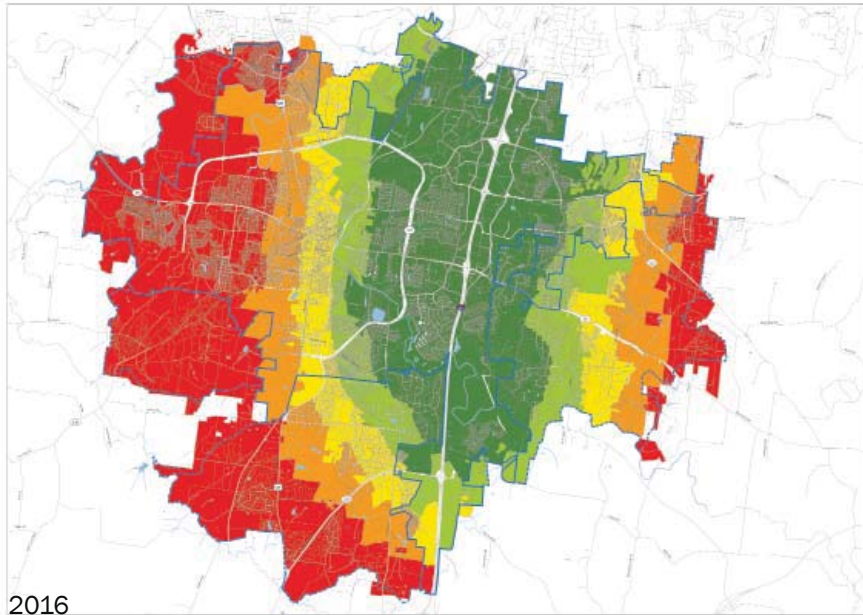


FIGURE C.8: LAND USE SUITABILITY - COMMERCIAL CENTERS

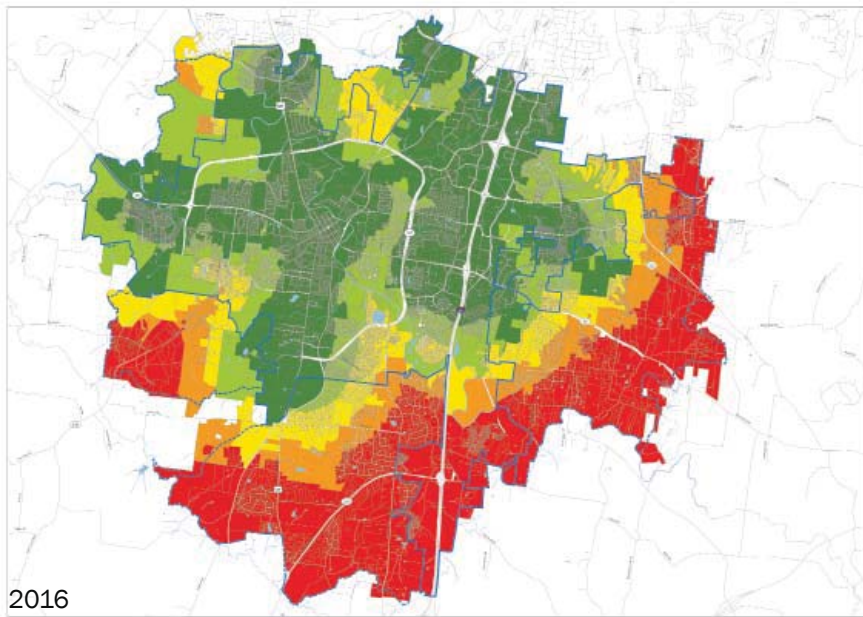


FIGURE C.9: LAND USE SUITABILITY - STREAM BUFFERS

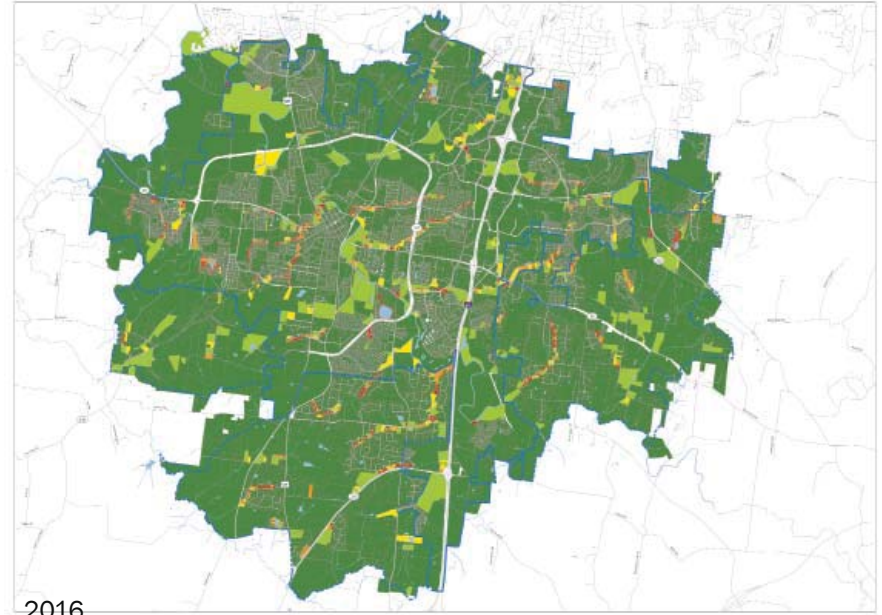
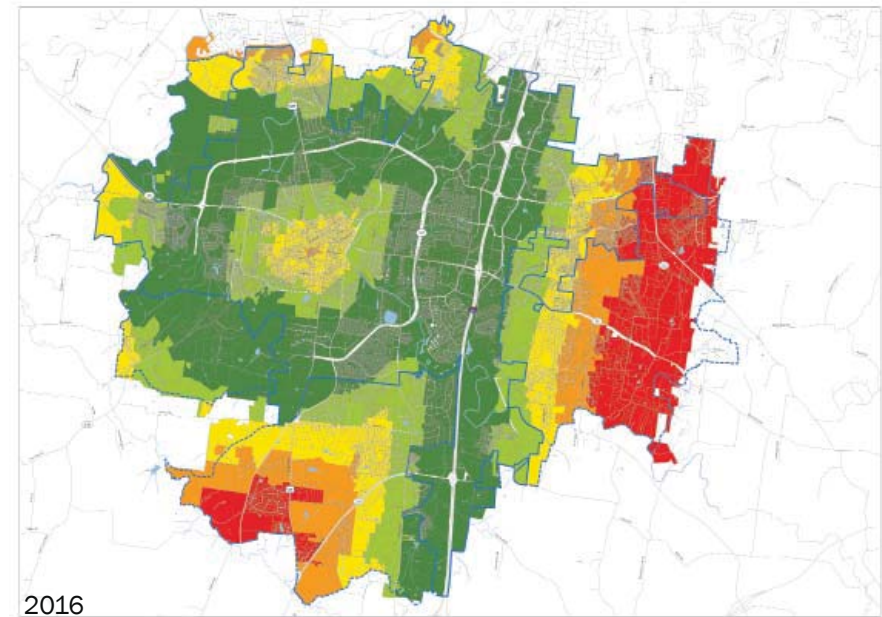


FIGURE C.10: LAND USE SUITABILITY - PRIMARY THOROUGHFARES



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FIGURE C.11: LAND USE SUITABILITY - SECONDARY THOROUGHFARES

