Appendix I Map Data Sources
Bernardston, Massachusetts
This map uses an aerial photograph to illustrate the landscape of Bernardston.

Massachusetts Office of Geographic Information (MassGIS):
- USGS Color Ortho Imagery (2013/2014)
- Massachusetts Department of Transportation (MassDOT) Roads
- Community Boundaries (Towns) from Survey Points
- Shaded Relief (1:5,000)

Community Vision
This map compiles the responses from Bernardston residents at a community meeting on February 3, 2015.

Massachusetts Office of Geographic Information (MassGIS):
- USGS Topographic Quadrangle Images

Custom Shape File:
- Contributions from the Bernardston Community

Regional Watersheds
This map is used to show the regional watersheds and their relationship to Bernardston.

Massachusetts Office of Geographic Information (MassGIS):
- MassDEP Hydrography (1:25,000)
- Major Watersheds
- State Outlines
- Community Boundaries (Cities and Towns)
- County Boundaries
Surface Flow and Drainage
This map displays the surface flow patterns and where in Bernardston water bodies drain.

Massachusetts Office of Geographic Information (MassGIS):
- MassDOT Roads
- Community Boundaries (Cities and Towns)
- MassDEP Hydrography (1:25,000)
- MassDEP Wetlands (1:12,000)
- Building Footprints (2-D, from Lidar data)
- Shaded Relief (1:5,000)
- Digital Elevation Model (1:5,000)

Surface Water Resources
This map shows the water bodies and the regulated areas around them.

Massachusetts Office of Geographic Information (MassGIS):
- NHESP Certified Vernal Pools
- NHESP Potential Vernal Pools
- MassDEP Wetlands (1:12,000)
- MassDEP Hydrography (1:25,000)
- Community Boundaries (Cities and Towns)
- Shaded Relief (1:5,000)
- Building Footprints (2-D, from Lidar data)

Custom Shapefile:
- Buffers calculated with MassGIS Geoprocessing.

Falls River Watershed
This map illustrates the extent of the Falls River watershed in Vermont and Massachusetts.

Massachusetts Office of Geographic Information (MassGIS):
- MassDEP Wetlands (1:12,000)
- MassDEP Hydrography (1:25,000)
- Community Boundaries (Cities and Towns)

Custom Shapefile:
- Falls River watershed data shapefile derived from Massachusetts Stream Stats.
Keets Brook Watershed
This map shows the Keets Brook watershed.

Massachusetts Office of Geographic Information (MassGIS):
- MassDEP Wetlands (1:12,000)
- MassDEP Hydrography (1:25,000)
- Community Boundaries (Cities and Towns)
- Massachusetts Department of Transportation (MassDOT) Roads

Custom Shapefile:
Keets Brook watershed data was gathered from Stream Stats Massachusetts.

Couch Brook Watershed
This map illustrates the extent of the Couch Brook watershed.

Massachusetts Office of Geographic Information (MassGIS):
- MassDEP Wetlands (1:12,000)
- MassDEP Hydrography (1:25,000)
- Community Boundaries (Cities and Towns)
- Massachusetts Department of Transportation (MassDOT) Roads

Custom Shapefile:
Couch Brook watershed data was gathered from Stream Stats Massachusetts.

Stream Along Fox Hill Road Watershed
This map shows the water bodies that flow into the wetland adjacent to Cushman Park.

Massachusetts Office of Geographic Information (MassGIS):
- MassDEP Wetlands (1:12,000)
- MassDEP Hydrography (1:25,000)
- Community Boundaries (Cities and Towns)
- Massachusetts Department of Transportation (MassDOT) Roads

Custom Shapefile:
This watershed data was gathered from Stream Stats Massachusetts.
**Mill Brook Watershed**
This map shows the extent of the Mill Brook watershed.

**Massachusetts Office of Geographic Information (MassGIS):**
- MassDEP Wetlands (1:12,000)
- MassDEP Hydrography (1:25,000)
- Community Boundaries (Cities and Towns)
- Massachusetts Department of Transportation (MassDOT) Roads

**Custom Shapefile:**
Mill Brook watershed data was gathered from Stream Stats Massachusetts.

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**Dry Brook Watershed**
This map illustrates the Dry Brook watershed.

**Massachusetts Office of Geographic Information (MassGIS):**
- MassDEP Wetlands (1:12,000)
- MassDEP Hydrography (1:25,000)
- Community Boundaries (Cities and Towns)
- Massachusetts Department of Transportation (MassDOT) Roads

**Custom Shapefile:**
Dry Brook watershed data was gathered from Stream Stats Massachusetts.

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**100-Year Floodplains**
This map shows the location of the floodplain in Bernardston.

**Massachusetts Office of Geographic Information (MassGIS):**
- MassDEP Wetlands (1:12,000)
- MassDEP Hydrography (1:25,000)
- Community Boundaries (Cities and Towns)
- Massachusetts Department of Transportation (MassDOT) Roads
- Shaded Relief (1:5,000)

**Franklin Regional Council of Governments:**
100-year floodplains
Wellheads and Aquifers
The Wellheads and Aquifers Map identifies where the town public water supply is and the water lines that connect water to residences.

Massachusetts Office of Geographic Information (MassGIS):
MassDEP Wetlands (1:12,000)
MassDEP Hydrography (1:25,000)
Community Boundaries (Cities and Towns)
Massachusetts Department of Transportation (MassDOT) Roads
Shaded Relief (1:5,000)
Aquifers

Franklin Regional Council of Government:
Zone II Recharge zone supplied by FRCOG
Waterlines supplied by FRCOG
Wellheads based on information from FRCOG

Surficial Geology
The Surficial Geology Map shows patterns of soil parent material.

Massachusetts Office of Geographic Information (MassGIS):
USGS Topographic Quadrangle Images
Community Boundaries (Cities and Towns)
Surficial Geology

Core Habitats and Species of Concern
The Core Habitats and Species of Conservation Concern Map illustrates important habitats for wildlife and species of conservation concern.

Massachusetts Office of Geographic Information (MassGIS):
BioMap2
Community Boundaries (Cities and Towns)
NHESP Certified Vernal Pools
NHESP Potential Vernal Pools
MassDEP Hydrography (1:25,000)
Community Boundaries (Cities and Towns)
Massachusetts Department of Transportation (MassDOT) Roads
Shaded Relief (1:5,000)
**Protected Wildlife Habitat**

The Protected Wildlife Habitat Map identifies existing wildlife habitats that are protected.

**Massachusetts Office of Geographic Information (MassGIS):**
- BioMap2
- Community Boundaries (Cities and Towns)
- Massachusetts Department of Transportation (MassDOT) Roads
- MassDEP Hydrography (1:25,000)
- Shaded Relief (1:5,000)

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**Visibility of Scenic Resources**

The Visibility of Scenic Resources and Unique Environments Map illustrates the most visible areas in town from the roads.

**Massachusetts Office of Geographic Information (MassGIS):**
- Community Boundaries (Cities and Towns)
- Massachusetts Department of Transportation (MassDOT) Roads
- Digital Elevation Model (1:5,000)

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**Fragmentation**

The Fragmentation Map illustrates habitat fragmentation patterns resulting from development and road ways.

**Massachusetts Office of Geographic Information (MassGIS):**
- BioMap2
- Community Boundaries (Cities and Towns)
- Massachusetts Department of Transportation (MassDOT) Roads
- Shaded Relief (1:5,000)
Map Inset 1: Current Land Use
This map shows the pattern of land uses and soils in the Falls River Valley.

**Massachusetts Office of Geographic Information (MassGIS):**
- Land Use (2005)
  - Community Boundaries (Towns) from Survey Points
  - Shaded Relief (1:5,000)

Map Inset 2: Prime Farmland
This map shows the pattern of prime farmland in Bernardston.

**Massachusetts Office of Geographic Information (MassGIS):**
- NRCS SSURGO-Certified Soils
  - Community Boundaries (Towns) from Survey Points
  - Shaded Relief (1:5,000)

Current Land Use
This map shows the patterns of land use in Bernardston.

**Massachusetts Office of Geographic Information (MassGIS):**
- Land Use (2005)
  - Massachusetts Department of Transportation (MassDOT) Roads
  - Community Boundaries (Towns) from Survey Points
  - Shaded Relief (1:5,000)
**Land Use Change**
This map shows the changes in land use from 1971 - 1999.

Massachusetts Office of Geographic Information (MassGIS):
- Land Use (1971 - 1999)
- Massachusetts Department of Transportation (MassDOT) Roads
- Community Boundaries (Towns) from Survey Points
- Shaded Relief (1:5,000)

**Zoning**
This map shows the zoning districts for Bernardston according to their zoning bylaws.

Massachusetts Office of Geographic Information (MassGIS):
- USGS Topographic Quadrangle Images

Franklin Council of Regional Governments:
- Bernardston Zoning Districts (2015)

**Valuable Farmland and Development**
This map shows areas identified by the US Department of Agriculture as Prime Farmland and Farmland of Statewide Importance, areas that have been developed for non-agricultural uses, and what areas fall under permanent protection.

Massachusetts Office of Geographic Information (MassGIS):
- Land Use (2005)
- NRCS SSURGO-Certified Soils
- Protected and Recreational Open Space
- Massachusetts Department of Transportation (MassDOT) Roads
- Community Boundaries (Towns) from Survey Points
- Shaded Relief (1:5,000)
**Vacant Lots in Center Village**
This map shows vacant lots deemed developable, potentially developable and not developable in the zoned Center Village and surrounding area.

**Massachusetts Office of Geographic Information (MassGIS):**
- USGS/MassDEP Hydrography (1:25,000)
- Community Boundaries (Cities and Towns)
- Massachusetts Department of Transportation (MassDOT)
- Roads
- Structures
- Tax Parcels

**Housing Units by Parcel**
This map shows the type of housing found on each residential parcel in Bernardston.

**Massachusetts Office of Geographic Information (MassGIS):**
- USGS/MassDEP Hydrography (1:25,000)
- Community Boundaries (Cities and Towns)
- Massachusetts Department of Transportation (MassDOT)
- Roads
- Tax Parcels
- Structures

**Transportation Context**
This map shows the major transportation routes that connect Bernardston to the surrounding towns.

**Massachusetts Office of Geographic Information (MassGIS):**
- Protected and Recreational Open Space
- Massachusetts Department of Transportation (MassDOT)
- Roads
- Trains (and MBTA Commuter Rail)
Major Regional Road Context
This map shows the network of major roads that includes Interstate 91.

Massachusetts Office of Geographic Information (MassGIS):
Massachusetts Department of Transportation (MassDOT) Roads

Number of Vehicles Travelling Through Bernardston
This map shows an estimate of the number of vehicles that travel through Bernardston daily.

Massachusetts Office of Geographic Information (MassGIS):
Massachusetts Department of Transportation (MassDOT) Roads
Massachusetts Department of Transportation Traffic Volume Counts

Location of the Priority Development Sites
This map shows the Priority Development Sites in Relation to Center Village

Google Earth Imagery
Aerial photo

Franklin Council of Regional Governments:
Bernardston Zoning Districts (2015)
Bridges in Bernardston
This map shows the major bridges in town and groups them according to their AASHTO rating.

Massachusetts Office of Geographic Information (MassGIS):
  Massachusetts Department of Transportation (MassDOT) Roads

Franklin Council of Regional Governments:
  Bridges in Franklin County

Walkability in Center Village
This map shows the crosswalks and sidewalks in Center Village in relation to a half-mile and one-mile radius distance.

Google Earth Imagery
  Aerial photo

Custom Shapefile:
  Location of crosswalks and sidewalk in Center Village

Charity Farm Lot
This map shows many features of Charity Farm Lot.

Courtesy of John Lepore
The Franklin County Bikeway
This map shows the northern part of the Franklin County Bikeway.

Google Earth Imagery
Aerial photo

Franklin Council of Regional Governments:
Franklin County Bikeway

Rail Sidings in Bernardston
This map shows the location of the rail sidings in town.

Massachusetts Office of Geographic Information (MassGIS):
- Massachusetts Department of Transportation (MassDOT) Roads
- USGS Color Ortho Imagery (2013/2014)

Franklin Council of Regional Governments:
- Rail Sidings
  - Bernardston Zoning Districts (2015)
  - Trains (and MBTA Commuter Rail)

Failed Septic Systems Due to Rising Water Table
This map shows the septic systems in Bernardston’s Center Village that have failed because of a rising water table.

Massachusetts Office of Geographic Information (MassGIS):
- USGS/MassDEP Hydrography (1:25,000)
- Community Boundaries (Cities and Towns)
- Massachusetts Department of Transportation (MassDOT) Roads
- Structures
- DEP Wetlands (1:12,000)

Failed systems information provided by the Chairman of Bernardston’s Board of Health
Custom Soil Resource Report Map - Septic Tank Absorption Fields
This map shows where there is suitable soil in Bernardston for septic systems according to Title V requirements.

United States Department of Agriculture Natural Resource Conservation Service
  Web Soil Survey Data for Bernardston Massachusetts

Major Employers
This map shows the major employers in town and how many employees they have.

Massachusetts Office of Geographic Information (MassGIS):
  Massachusetts Department of Transportation (MassDOT)
  Roads

Custom Shapefile:
  Employer information provided by Infogroup, Omaha, NE on the Official Website of the Executive Office of Labor and Workforce Development (EOLWD) on Mass.gov

Expedited Permitting District
This map shows the location of the Expedited Permitting District in Bernardston and the assets available to industries or businesses that develop there.

Massachusetts Office of Geographic Information (MassGIS):
  USGS Color Ortho Imagery (2013/2014)
  Massachusetts Department of Transportation (MassDOT)
  Roads
  Trains (and MBTA Commuter Rail)

Franklin Council of Regional Governments:
  Bernardston Zoning Districts (2015)
  Rail Sidings Inventory

Massachusetts Broadband Institute:
  Fiber Route: Bernardston