



# FEMA Requirement A4: Incorporate Existing Information

## Does the Plan document the review and incorporation of existing plans, studies, reports, and technical information?

Local Mitigation Plan Review Guide, FEMA, 2011, page 17

This “Good Practice” document is intended to help plan developers understand the FEMA requirement to document the review and incorporation of existing plans, studies, reports, and technical information within the current local hazard mitigation plan.

### Common Reasons Why FEMA Returns Plans for A4 Revisions

1. Information sources are not identified (cited) within the plan, either within the text, in footnotes, or within a bibliography. Sources may include plans, studies, reports, technical information, historical documents, personal interviews, etc.

**Tip:** Acknowledge all sources, including any online and within the local community, along with formal written plans and studies.

2. The plan lacks an explanation about how relevant information was incorporated into the plan. This may include how source data was used in the document’s risk assessment, other plan elements, and/or planning process.

**Tip:** Describe how the community researched and reviewed information, determined which were the best available, and how those were then used in plan development.

**Tip:** Update data used within the prior update so that it is best available, e.g. the latest U.S. Census and National Weather Service data.

### Plan Demonstrating Good Practice for Requirement A4

This section provides an example of how a community documented the review, incorporation, and utilization of existing information sources within a hazard mitigation plan. The abstracts are preceded by a brief explanation of why this plan section is exemplary. Practices going “Beyond Minimum Requirements” are also noted. Many other

approaches are possible, so don't be limited by this example; the approach taken should fit the particular circumstances of the community.

**Example: *City of Cranston, RI Multi-Hazard Mitigation Strategy (2015)***

**Why This Plan Demonstrates Good Practice**

1. The sources of all external and internal data used in the plan are referenced. Readers will know where to locate these for verification or more information.  
**Note:** Each community should use a reference system best suited to its planning needs.  
**Beyond Minimum Requirements:** A variety of sources were utilized, including plans, studies, municipal databases/GIS, online state and federal government databases, FEMA flood zone information, and local media archives.
2. Sources of data were updated since the prior update.  
**Beyond Minimum Requirements:** Variations from the prior update are explained (except in the table on page 1, included in the Abstract, in which the source of data added after 2010 is not cited).  
**Note:** Make sure to update the source citations for tables when additional and more current data is added.
3. The Cranston abstract explains how the acquired information was incorporated into the hazard mitigation plan. As a complex urban area, a high level of analysis makes sense and is well supported by source material.  
**Beyond Minimum Requirements:** The limitations of available data are described, including how these affected plan development.

See Abstract on following pages.

***Where to Obtain More Information about This Plan:***

<http://www.cranstonri.com/generalpage.php?page=22>

Abstracts from  
***City of Cranston, RI Multi-Hazard Mitigation Strategy (2015)***

**Chapter 2: Natural Hazards**

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The primary sources of data researched to identify occurrences of natural hazard events in Cranston were the National Climatic Data Center within the National Oceanic Atmospheric Administration (NCDC-NOAA) (<http://www.ncdc.noaa.gov/stormevents/>), The Rhode Island Hazard Mitigation Plan 2014 Update, United States Geological Survey (USGS) Earthquake Hazards Program (<http://neic.usgs.gov>), the 1998 Journal-Bulletin: Rhode Island Almanac, and the Taunton, MA, National Weather Service Forecast Office. The parameters and description of particular events are limited to the availability of information contained in the aforementioned sources.

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Two flood control structures that lie outside of the City of Cranston are the Flat River Reservoir in Coventry, and the Scituate Reservoir and Pawtuxet River Dam in Scituate. In addition, according to the Rhode Island Department of Environmental Management Dam Safety Program, there are a total of 22 dams within the City, 5 of which are high hazard dams, 1 of which is a significant hazard damns. The high hazard dams in Cranston are: the Cranston Print Works Pond, Clarke’s Pond Upper, Curran Lower Reservoir, Curran Upper Reservoir, and Stone Pond. All dams are shown in Appendix F.

(Page 15) **Table 3: Historic Hurricane Events in Rhode Island**

Date	Name	CAT	Tracking of Eye	Sustained Winds (mph)	Wind Gust (mph)	Property Damage (\$ million)	Deaths
09/21/38	N/A	3	New Haven, CT	100	125	100	262
09/14/44	N/A	3	Narragansett & Warwick, RI	82	100	2	0
8/31/54	Carol	3	Old Saybrook, CT	90	105-115	90	19
09/11/54	Edna	3	Cape Cod, MA	75-95	110	0.1	0
08/19/55	Diane	Tropical Storm	South of Block Island, RI	45	N/A	170	1
09/12/60	Donna	2	New Haven, CT	58	81	2.4	0
9/21/61	Esther	Tropical Storm	Offshore, SE of Block Island	35-50	45-65	<2	0
09/27/85	Gloria	1	New Haven, CT	81	120	19.8	1
10/19/91	Bob	2	Newport, RI	75-100	100	115	0
8/28/11	Irene	Tropical Storm	Bridgeport, CT	44 (on land)	N/A	127.3	1
10/29/12	Sandy	Super Storm	New Jersey	60-80	90	0.02	0

Source: Providence Journal-Bulletin, 1998 Journal-Bulletin: Rhode Island Almanac 112th ed. (Providence, RI: Providence Journal Company, 1998) 255-256. David R. Vallee and Michael R. Dion, Southern New England Tropical Storms and Hurricanes: A Ninety-seven Year Summary 1900 - 1996 including several Early American Hurricanes. (Taunton, MA: National Weather Service Forecast Office, 1996).

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Abstracts from

***City of Cranston, RI Multi-Hazard Mitigation Strategy (2015)***

*Continued:*

**2.1.7 Coastal Erosion**

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Unfortunately, historic rates of coastal erosion are unavailable for the city. An inventory of other events that might have contributed to this process could include however those documented in tables 4 (hurricanes), 6 (severe winter storms) and 8 (thunderstorms/high wind events) above.

**Chapter 3: Risk Assessment**

**3.2 Hazard Mitigation Mapping**

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The facility inventory from the 2010 plan was reviewed and determined to be largely unchanged. The City's GIS data base, including parcel data, orthophotography and FEMA flood zone information, were utilized to complete this task. The use of this system not only allowed the CHMC to estimate potential fiscal and population impacts for individual parcels (see sections 3.3. and 3.4. for results) but also allowed them to analyze spatial relations between variables.

**3.3 Fiscal Impact Analysis**

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The City of Cranston Tax Assessor's Database and GIS, and FEMA's 100-year flood plain data were utilized to generate estimates of potential fiscal impacts from natural hazard events. This differed from the 2010 assessment which looked at estimates based on the 500 year flood event. The information utilized from the tax assessor's database and GIS included the improvement values, land usage, and unit counts.

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Table 9 displays potential damage estimates of property values of parcels that are located wholly or partially within the City's 100 year flood plain. The only limitation noted, using the best available data, is that the tax assessor database does not reflect the current market value of real estate.

**3.4 Population Impact Analysis**

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In order to estimate the number of City residents impacted by natural hazard events, the number of occupied dwelling units was multiplied by the average household size per occupied dwelling unit (2.45).<sup>21</sup> This approach was utilized throughout this population analysis.

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Abstracts from  
***City of Cranston, RI Multi-Hazard Mitigation Strategy (2015)***

*Continued:*

**3.4 Population Impact Analysis (Continued)**

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Using the 2014 Tax Assessor’s Database and the City’s GIS, there are total of 585 residential structures within City’s 100-year flood zone. This includes a mix of single family, multi-family and larger condo/apartment structures.

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Lastly, at-risk population estimates could not be developed for historic resources, critical municipal hazard response facilities, recreational facilities, and marinas and private mooring fields. Therefore, the analysis classifies the at-risk population as not available.

**Table 10: Population Living within Flood Plains**

<b>Pawtuxet River</b>			
<b>Flood Plain Area</b>	<b>Occupied Units</b>	<b>Population</b>	<b>%</b>
Pocasset River	1492	3789	49.7
Pawtuxet River	570	1447	19
Furnace Hill Brook & Meshanticut Brooks	570	1447	10
Spectacle Pond	8	20	0.6
Spring Lake	1	3	0.1
<b>Subtotal</b>	<b>2640</b>	<b>6707</b>	<b>87.7</b>
Pawtuxet Village	183	545	6.1
Edgewood	187	475	6.2
<b>Subtotal</b>	<b>370</b>	<b>1020</b>	<b>12.3</b>
<b>City Wide Total</b>	<b>3010</b>	<b>7726</b>	<b>100</b>

Source: City of Cranston GIS and Tax Assessor's Database. 2014.

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## Abstract from

**City of Cranston, RI Multi-Hazard Mitigation Strategy (2015)**

Continued:

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**End Notes**

- <sup>1</sup> American Planning Association, Growing Smart Legislative Guidebook. 2002 ed. (Chicago, IL: APA Publications, January 2002) Page 7-143.
- <sup>2</sup> FEMA, Local Mitigation Planning Handbook. March 2013. [http://www.fema.gov/media-library-data/20130726-1910-25045-9160/fema\\_local\\_mitigation\\_handbook.pdf](http://www.fema.gov/media-library-data/20130726-1910-25045-9160/fema_local_mitigation_handbook.pdf)
- <sup>3</sup> Ibid.
- <sup>4</sup> Ibid.
- <sup>5</sup> RIEMA, Rhode Island Hazard Mitigation Plan – 2014 Update. (Providence, RI: RIEMA Publications, 2014)
- <sup>6</sup> FEMA, Flood Insurance Study: City of Cranston, Rhode Island Providence County. (Washington, DC: FEMA Publications, 18 September 2013) Vol. 2
- <sup>7</sup> RIEMA, Courtney Saucedo - Regional Catastrophic Planner. NFIP Policy and Claims Report data updated on February 12, 2015.
- <sup>8</sup> RIEMA, Rhode Island Hazard Mitigation Plan – 2014 Update. (Providence, RI: RIEMA Publications, 2014)
- <sup>9</sup> NOAA. "Hurricane Awareness: Hurricane Basics." NOAA – National Oceanic and Atmospheric Administration. 22 January, 2004. <http://www.nhc.noaa.gov/HAW2/english/basics.shtml>
- <sup>10</sup> RIEMA, Rhode Island Hazard Mitigation Plan – 2014 Update. (Providence, RI: RIEMA Publications, 2014)
- <sup>11</sup> Providence Journal-Bulletin, 1998 Journal-Bulletin: Rhode Island Almanac 112th ed. (Providence, RI: Providence Journal Company, 1998) 255.
- <sup>12</sup> FEMA, Flood Insurance Study: City of Cranston, Rhode Island Providence County. (Washington, DC: FEMA Publications, 18 September 2013) Vol. 2
- <sup>13</sup> Providence Journal-Bulletin, 1998 Journal-Bulletin: Rhode Island Almanac 112th ed. (Providence, RI: Providence Journal Company, 1998) 255
- <sup>14</sup> Ibid
- <sup>15</sup> FEMA, Flood Insurance Study: City of Cranston, Rhode Island Providence County. (Washington, DC: FEMA Publications, 18 September 2013) Vol. 2
- <sup>16</sup> Providence Journal-Bulletin, 1998 Journal-Bulletin: Rhode Island Almanac 112th ed. (Providence, RI: Providence Journal Company, 1998) 256
- <sup>17</sup> Ready.Gov. "Tornadoes", April 30, 2014. <http://www.ready.gov/tornadoes>
- <sup>18</sup> Ibid
- <sup>19</sup> RIEMA, Rhode Island Hazard Mitigation Plan – 2014 Update. (Providence, RI: RIEMA Publications, 2014)
- <sup>20</sup> Wood, Michelle. "UPSeis: An Educational Site for Budding Seismologists," 21 May. 1997, 5 January, 2004. <http://www.geo.mtu.edu/UPSeis/intensity.html>.
- <sup>21</sup> American Fact Finder, US Census Bureau. Last accessed 2014. [http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10\\_DP/DPDP1/1600000US4419180](http://factfinder.census.gov/bkmk/table/1.0/en/DEC/10_DP/DPDP1/1600000US4419180)
- <sup>22</sup> City of Cranston, Emergency Management Agency. Emergency Operations Plan. Cranston, RI: EMA, January 2013.
- <sup>23</sup> Natural Resources Conservation Service (NRCS) (formerly the Soil Conservation Service (SCS)). Meshanticut Brook Flood Plain Management Study: Cranston and Warwick, RI. (Greenville, RI: SCS, Popular Report 1983). Pages 12 and 13.
- <sup>24</sup> Natural Resources Conservation Service (NRCS). Pocasset River Flood Plain Management Study. Draft Report. (Warwick, RI: NRCS, February 2004). As discussed in "Preliminary Alternative Plans with Costs," Page 9.
- <sup>25</sup> Ibid

## A4 Regulatory Guidance

### Abstracts from *Code of Federal Regulations and Local Mitigation Plan Review Guidance, October 1, 2011*

#### Element A4 Regulation [§201.6(b)(3)] (page 14)

An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include... (3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.

#### Element Intent (page 17)

To identify existing data and information, shared objectives, and past and ongoing activities that can help inform the mitigation plan. It also helps identify the existing capabilities and planning mechanisms to implement the mitigation strategy.

#### Element Requirements (page 17)

- a. The plan **must** document *what* existing plans, studies, reports, and technical information were reviewed. Examples of the types of existing sources reviewed include, but are not limited to, the state hazard mitigation plan, local comprehensive plans, hazard specific reports, and flood insurance studies.
- b. The plan **must** document *how* relevant information was incorporated into the mitigation plan.

***Incorporate*** means to reference or include information from other existing sources to form the content of the mitigation plan.

### Check Out These Additional Aids

Local Mitigation Plan Review Guide, October 2011

<http://www.fema.gov/media-library/assets/documents/23194>

Local Mitigation Planning Handbook, March 2013 (page 4-5)

<http://www.fema.gov/media-library/assets/documents/31598>