

CRITICAL INFRASTRUCTURE UPDATED APRIL 2017

The Professional Ambulatory Services (C.3) off Concord Avenue are no longer at risk of flooding and consequently only reported at risk to extreme heat. The Eliot Bridge (previously R.14) is no longer considered at risk for flooding and has been removed from the list of assets at risk.

The ability of a city to function is tied to its infrastructure, much of which is out of public view, or simply goes unnoticed until it ceases to function.

Six major systems were studied in this phase of work:

- Energy
- Critical Services
- Telecommunication
- Roadways & Bridges
- Transit
- Water/Stormwater

With the climate scenarios in hand, the team conducted the vulnerability and risk assessments for each system to determine the most at-risk assets. Figure 21 presents the results of the risk assessments and how data were analyzed and compiled. The map of most at-risk infrastructure (Figure 22) highlights the degree of interconnectivity among the various assets. Cascading impacts based on dependencies on upstream systems, such as an electricity blackout leading to the loss of public transit, was incorporated into the consequence scores, influencing the overall risk scores for infrastructure.

Fig. 21 **Most At-Risk Infrastructure Legend**
(Source: Kleinfelder, April 2017)

	Asset	Heat		Flood	
		2030	2070	2030	2070
E Energy	E.1 MIT Co-generation Plant				
	E.2 North Cambridge Substation				
	E.3 Putnam Substation				
	E.4 Prospect Substation				
	E.5 Third Street Regulator Station – natural gas				
	E.6 Brookford Street Take Station – natural gas				
C Critical Services	C.1 Police Department headquarters				
	C.2 Public Health Department office				
	C.3 Professional Ambulance Services				
	C.4 Youville Hospital				
	C.5 Fire Company 2				
	C.6 Fire Department headquarters				
	C.7 Water Department building / City’s Emergency Operations Center				
	C.8 Windsor Street Health Center				
	C.9 Tobin School				
TC Telecom	TC.1 City Emergency Communications Center (Police HQ)				
	TC.2 BBN Technologies data hub				
	TC.3 AT&T telephone office/long-line switch				
	TC.4 AT&T data hub/co-location center (CO-LOC)				
R Roadways & Bridges	R.1 Alewife Brook Parkway				
	R.2 Massachusetts Ave				
	R.3 Monsignor O’Brien Highway at Charlestown Ave/ Land Boulevard				
	R.4 Monsignor O’Brien Highway / McGrath Highway / Route 28				
	R.5 Fresh Pond Parkway / Route 60				
	R.6 Cambridge St Underpass				
	R.7 Broadway				
	R.8 Alewife Brook Parkway - intersections with Rt. 2 and Mass Ave/Rt. 16				
	R.9 Concord Turnpike/Route 2				
	R.10 Land Boulevard				
	R.11 Lars Anderson Bridge				
	R.12 Memorial Drive				
	R.13 Longfellow Bridge				
T Transit	T.1 Alewife Station (Red)				
	T.2 Lechmere Station (Green)				
	T.3 Alewife – Davis – Porter Rail Line (Red)				
	T.4 Lechmere – Science Park Rail Line (Green)				
	T.5 Central – Kendall Rail Line (Red)				
	T.6 Porter Square Subway / Commuter Rail Station (Red)				
	T.7 Central Square Station (Red)				
	T.8 Kendall Station (Red)				
	T.9 Fitchburg Commuter Rail Line				
	T.10 Porter – Harvard Rail Line (Red)				
	T.11 Harvard - Central Rail line (Red)				
W Water/Stormwater	W.1 Western Flagg (Charles, Separated)				
	W.2 New Street Pump Station				
	W.3 Fresh Pond Reservoir				
	W.4 CAM 004 (Alewife, Separated)				
	W.5 CAM 017 (Charles, Combined)				
	W.6 CAM 400 (Alewife, Separated)				
	W.7 Lechmere (Charles, Separated)				
	W.8 CAM 001 (Alewife, Combined)				
	W.9 D46 (Alewife, Separated)				

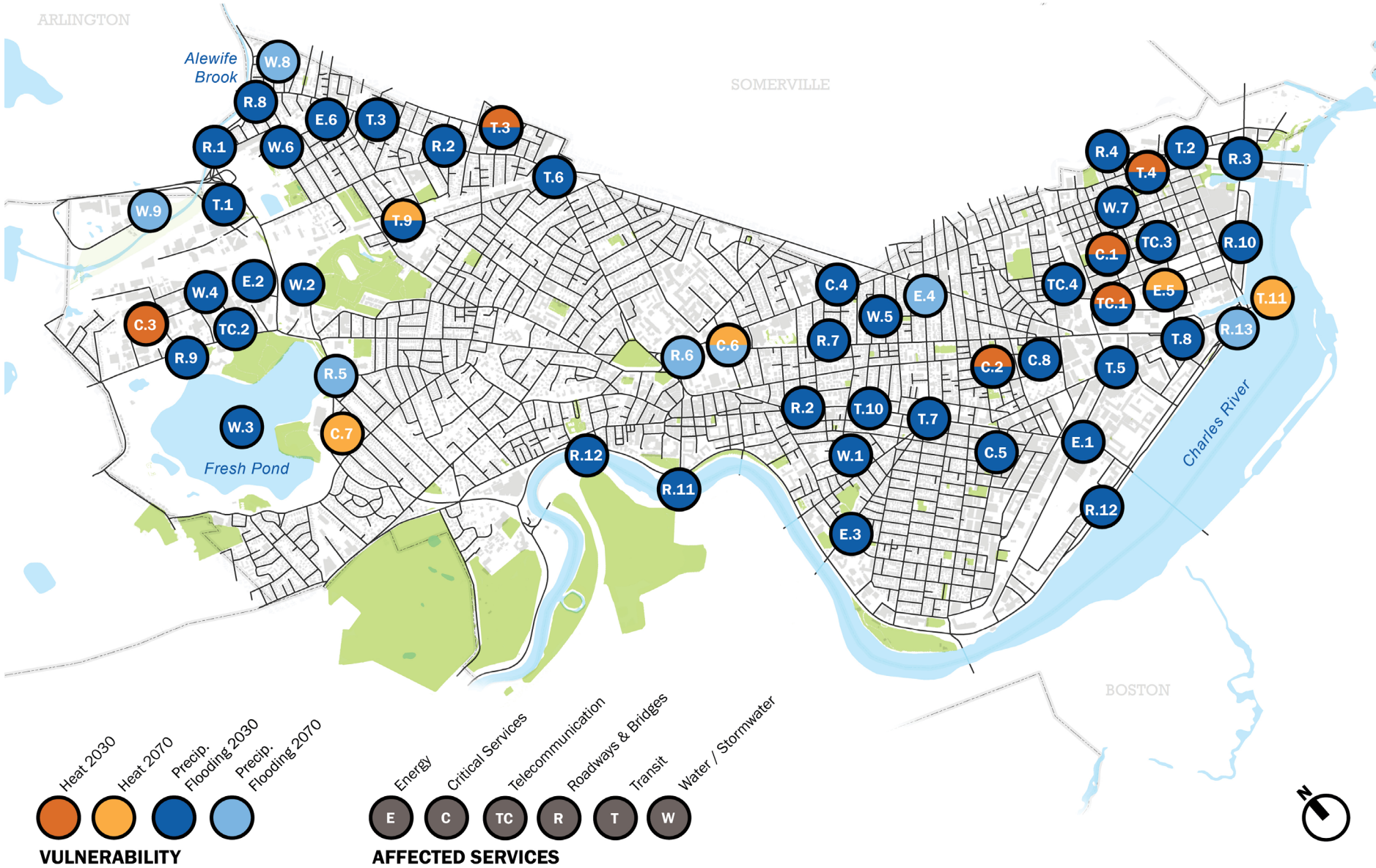


Fig. 22 Most At-Risk Infrastructure (Source: Kleinfelder, April 2017)