



Using Smart Growth & Economic Development Strategies to Build Disaster Resilient Economies

Ensuring Business Continuity through Disaster Preparation

Longmont: Foothills of the Rockies

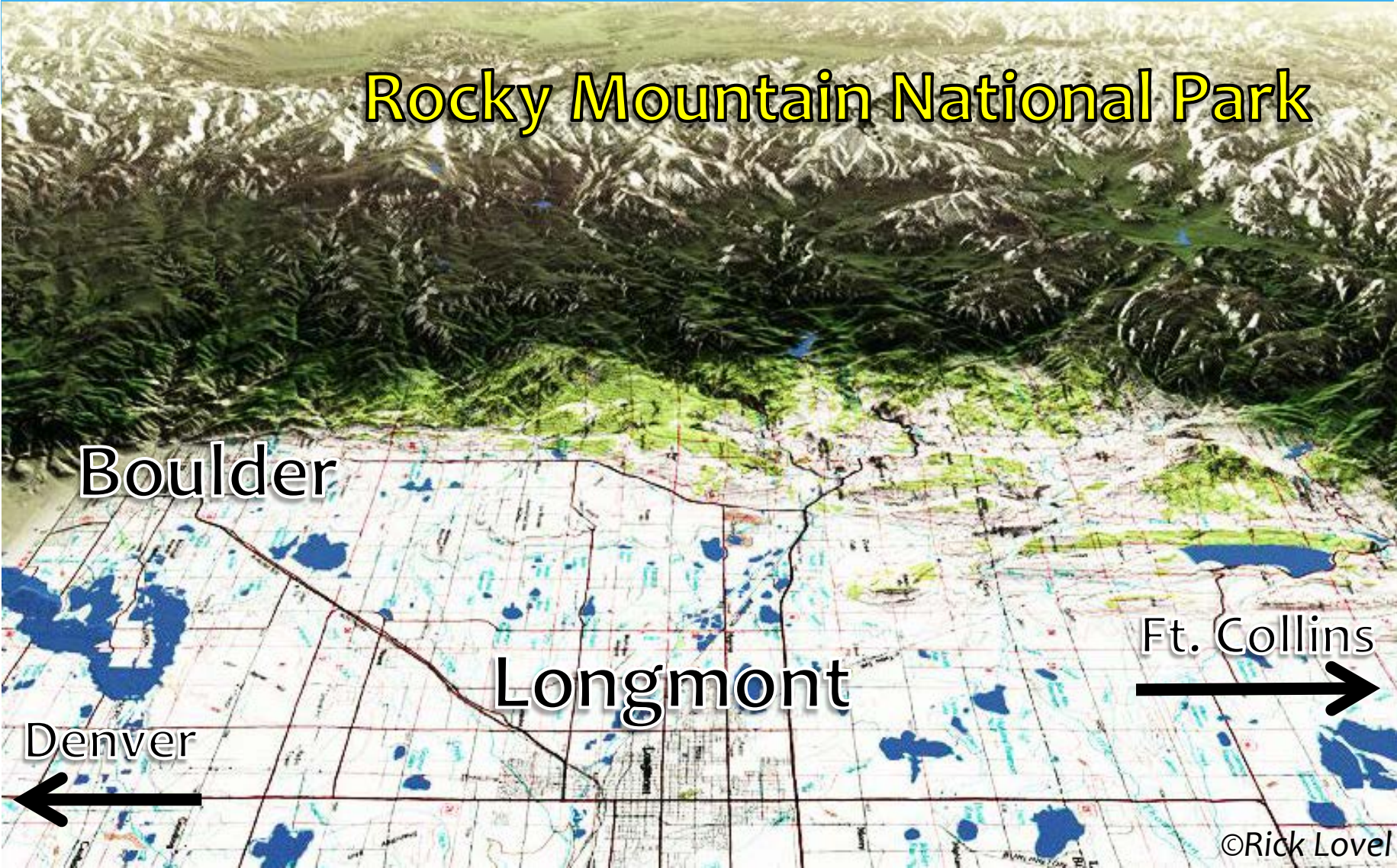
Rocky Mountain National Park

Boulder

Longmont

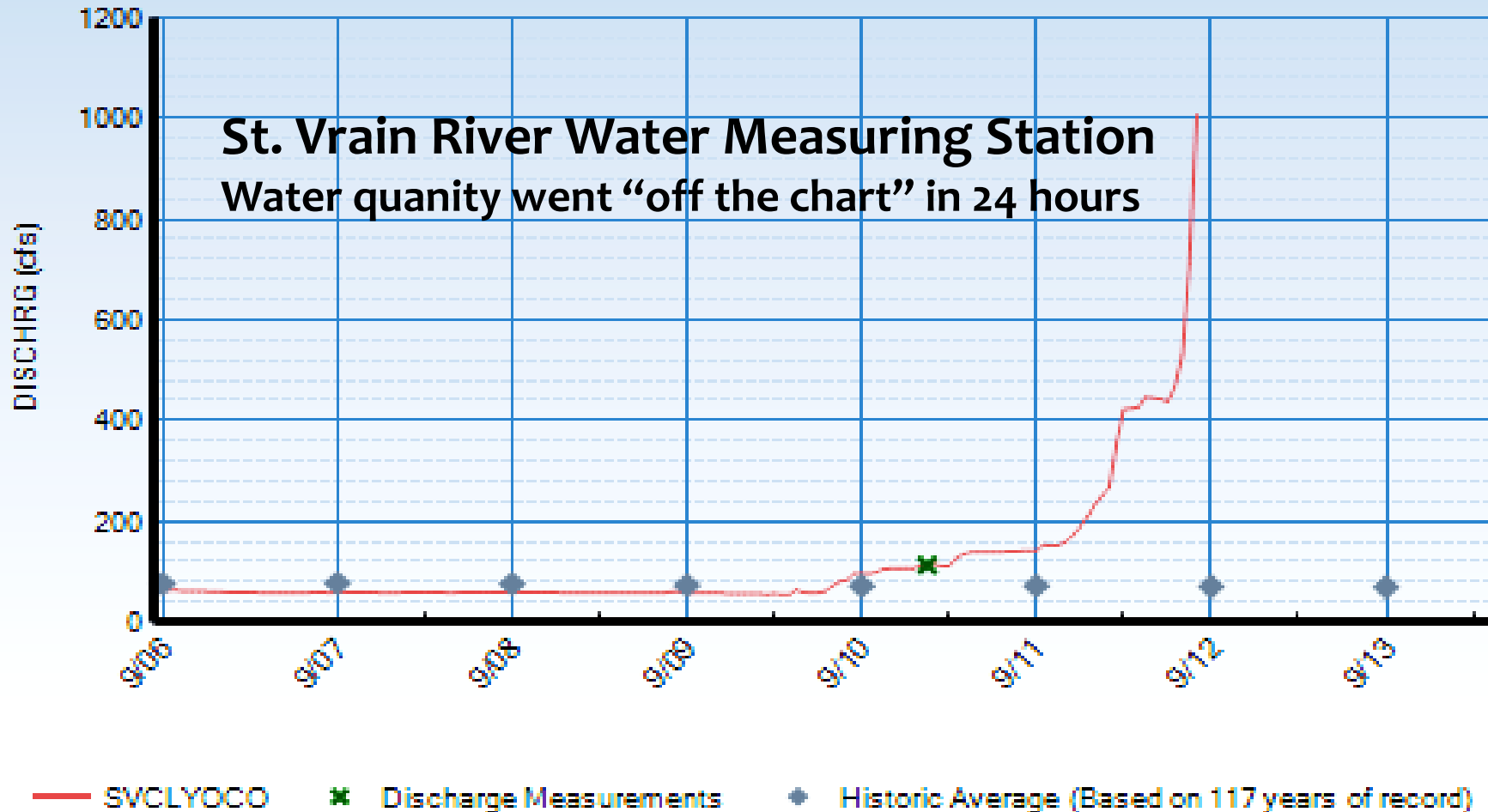
Ft. Collins

Denver



“Biblical rainfall amounts...”

–Nat’l. Weather Service



Rain falls throughout the day, 9/11/13

Thursday, 9/12

12:45 am--LPD Dispatch receives report of building collapse in Jamestown

2:30 am--Emergency Oper. Center active

3:00 am--First of several emergency evacuation notices sent to residents

3:49 am--City Mgr. Emergency Declaration

By day's end, average of 9 inches falls in Boulder County

Major Flooding Events

St. Vrain River jumps banks upstream of Longmont



Neighborhoods first to be impacted



Commercial areas



Industrial areas

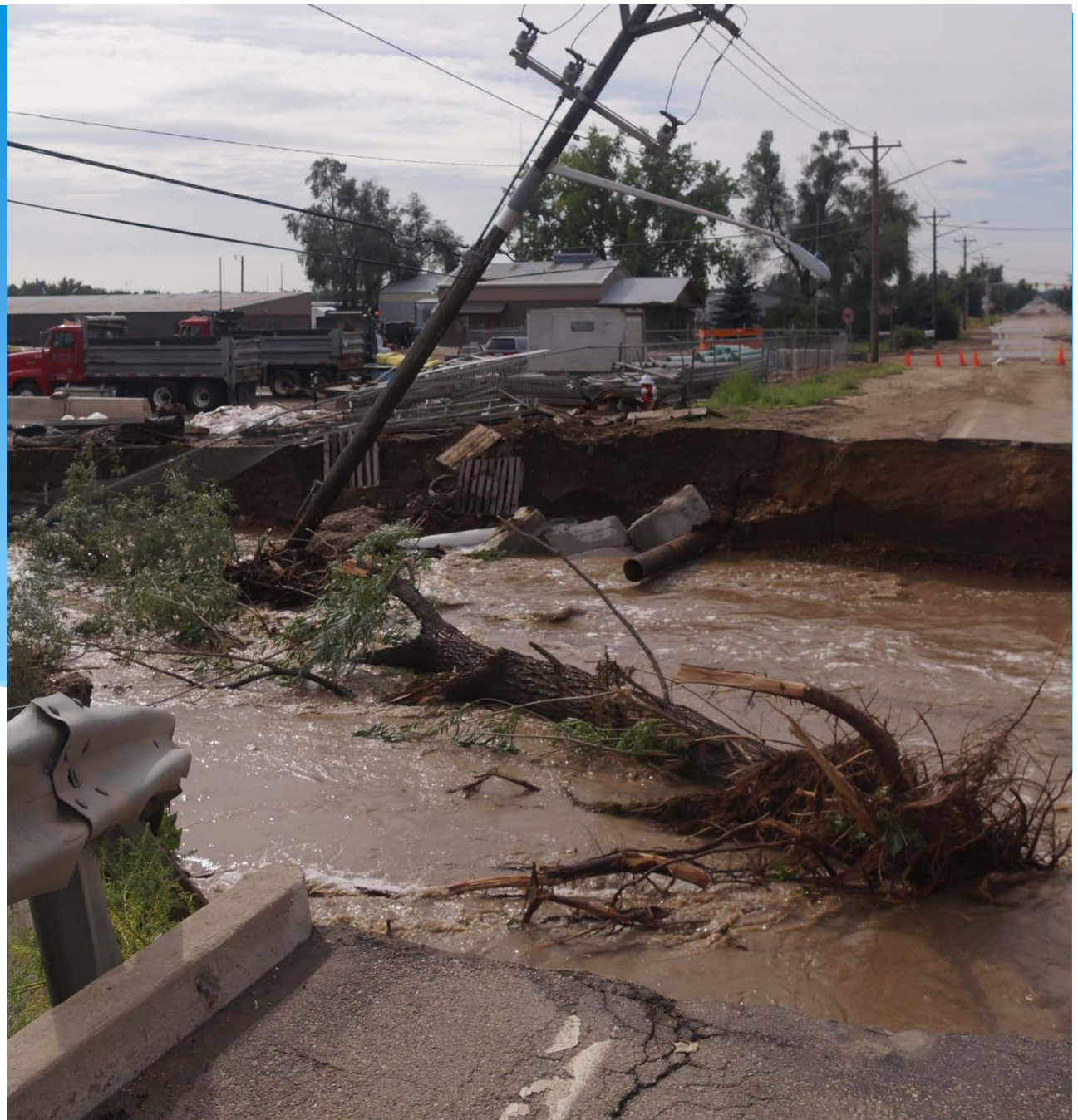


Main Street businesses and low-income housing



Public Infrastructure Damage

Roads & Bridges & Electrical System



Transportation routes



Parks & Greenways



Mountain Water Supplies & Infrastructure



Public Facilities

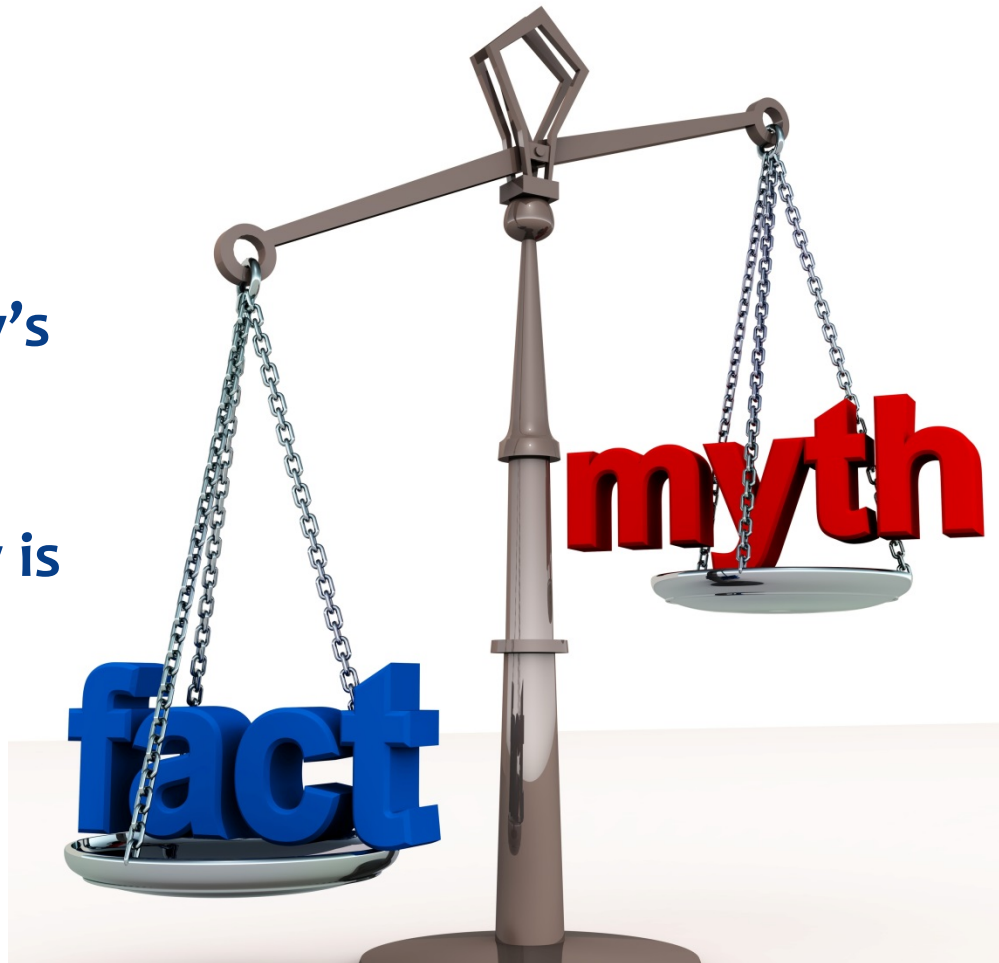


Public Infrastructure & Facilities Cost Estimates

Storm Drainage	\$98,250,000
Water System	\$21,518,000
Parks & Trails	\$19,770,000
Streets	\$6,872,000
Sewer	\$4,362,000
Electric	\$841,000
Fleet	\$400,000
Fire Training Center	\$250,000
Golf	\$232,000
Recreation	\$29,000
TOTAL	\$152,524,000

FACT

A community's ability to recover economically is largely the result of work done prior to the disaster.



MYTH

Emergency management & recovery efforts are the most important factor in economic resilience.

Dealing with Disaster Before it Strikes



Topics

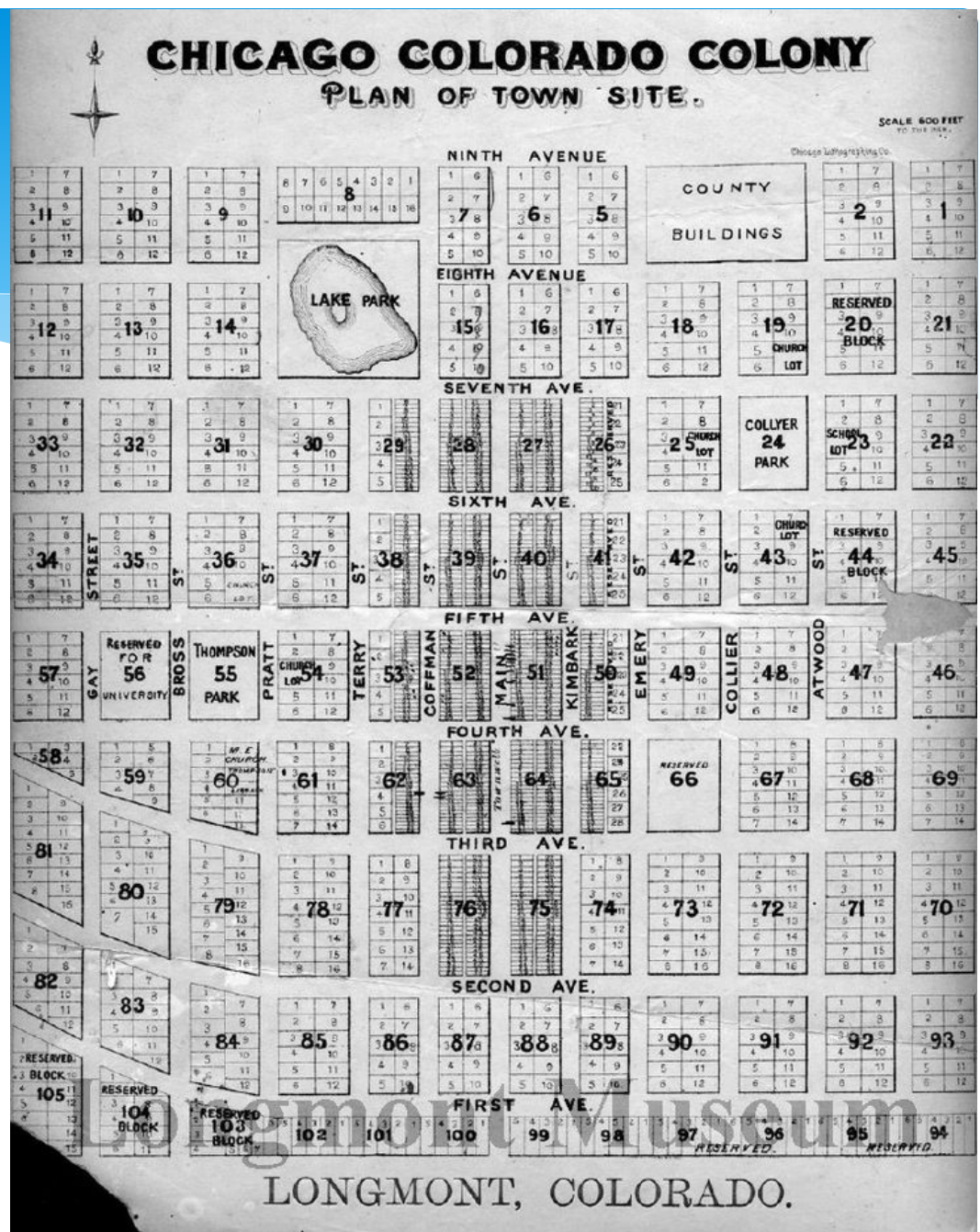
Urban Planning
Floodplain Management
Capital Improvement Planning
Economic Development Programs

A Foundation for Prevention & Economic Resiliency



Urban Planning

- Land use and site development standards
- Hazard mitigation in Comprehensive Planning
- Floodplain administration
- Stormwater management
- Community participation/ sense of belonging



Planning Case Study: Royal Mobile Home Park

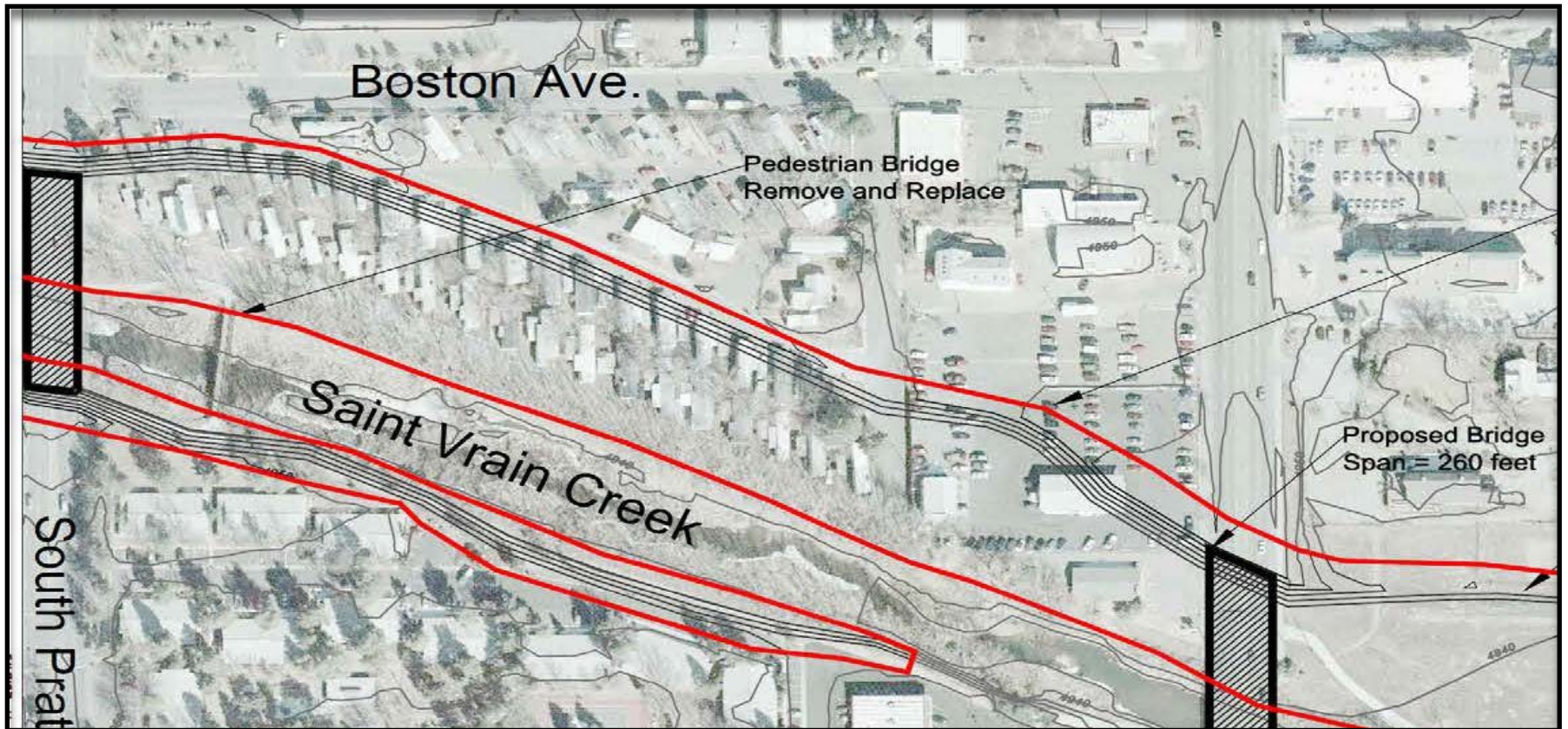


2012 Floodplain Map



January 2013 Anderson Floodplain Study

- Widen bridges from 140 feet to 280 feet
- \$25 million to construct the phase 1 improvements.
- Acquire Royal Mobile Home Park



September 13, 2013 Flooding



The Cost of Poor Planning

- * \$2.6 million to acquire within months after flood, used local funds
- * \$1 million to relocate residents
- * \$200,000 to dispose of homes and clear the park
- * \$2 million to rechannelize and rebuild greenway

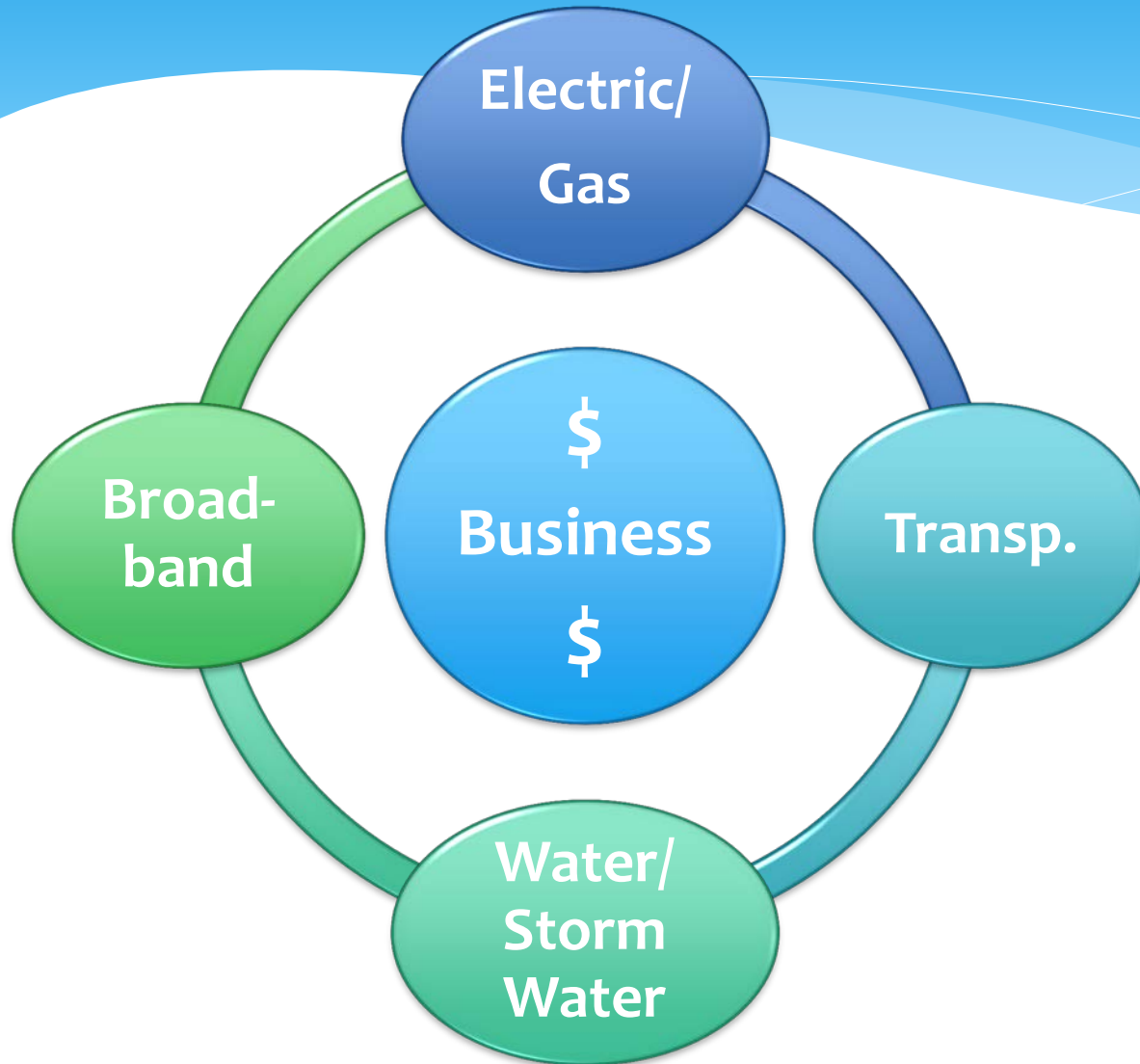


Plan, Adopt and Adhere to Codes

- * Zoning & land use
- * Building codes
- * Neighborhood networks
- * Floodplain administration
- * Hazard mitigation plans
- * Stormwater management
- * Robust GIS mapping
- * Manufactured home standards
- * Underground power line ordinance
- * Evacuation and alternate transportation plans

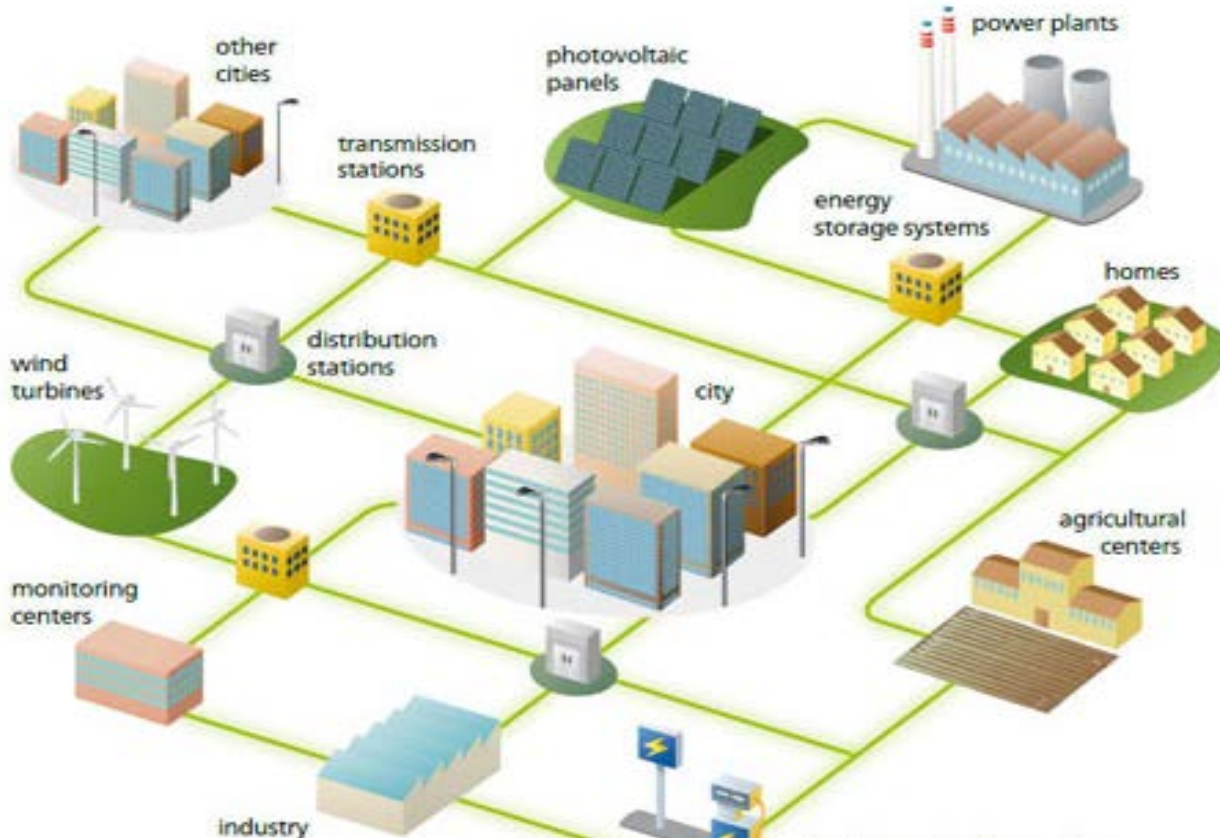


Capital Improvement Planning



***Resilient
Infrastructure
=
Business
Continuity
in Disasters***

Longmont Power & Communications



- Own the system
- Built in redundancy
- SCADA
- Underground power lines
- Underground city-wide fiber broadband

Longmont Public Works

Water & Wastewater

- * Poor placement of wastewater treatment plant
- * Redundancy--four water sources; reduced to one during flood
- * Robust valve replacement, maintenance and GIS data
- * SCADA
- * Ability to bypass damaged areas



Longmont Public Works

Floodplain Management



- * Mapping
- * Studies and analysis
- * System improvements through stormwater fees and FEMA grants
- * Permitting and design standards
- * Floodway maintenance

The Flood

500-year deluge nearly cuts Longmont in two, forces evacuations across the Front Range



Separated from his pickup due to flooding along Price Road at Boston Avenue, Don Potter stands on the washed-out railroad track at around noon Thursday. To see more photos and a video from Thursday, visit www.TimesCall.com.

By Tony Kindelspire and Scott Rochat
LONGMONT TIMES-CALL

LONGMONT — Longmont's city manager declared a state of emergency Thursday morning as the rapidly rising St. Vrain River and Left Hand Creek effectively cut the city in two.

The rising waters, declared a "500-year flood" by city officials, forced neighborhoods to evacuate and major streets to close, including major north-south routes such as Main Street, Howe Street, Sunset Street and Airport Road. Police and city crews spanned the south side of Longmont and the south side of Longmont and redirected traffic, reporting the conditions they found to the city's emergency command center, which city officials activated at 2:30 a.m. Later in the day, as the waters continued to rise, neighborhoods just east of Airport Road near Twin Peaks Golf Course were evacuated.

The blocked and flooded streets drove some to frustration as they tried to find a way across the swollen rivers. At Howe Street and

Photo by LONGMONT, in 66

BOULDER COUNTY

'We are still in life-safety mode'

President Barack Obama OKs federal disaster aid

By BRYANNA ANAK
FOR THE TIMES-CALL

BOULDER — President Barack Obama signed an emergency order Thursday night, approving federal disaster aid for Boulder County after torrential rainfall prompted 500-year

flooding that has, so far, resulted in two confirmed deaths, at least nine more missing and National Guard rescue efforts.

Continued flooding caused dozens more evacuations throughout the county, power outages and the closure of U.S. Highway 26 on Thursday. Parts of most major roads in Boulder were also closed.

Walls of water coming down canyons triggered mudslides and structure

Photo by COUNTY, in 43

Flooding carves up Lyons

Residents: Town divided into 'islands'



The South St. Vrain River roars through Lyons on Thursday.

By QUIRLES YOUNG
LONGMONT TIMES-CALL

Much of the town of Lyons was submerged Thursday after the St. Vrain River spilled over its banks and barreled through neighborhoods.

Lyons is "facing a 500-year flood event," the town said on its Facebook page Thursday. It said the Colorado Department of Public Health and Environment issued an advisory for residents to boil water for drinking, and it advised residents who are blocked in to "be

prepared to be self-contained for up to 72 hours" and to try to help neighbors in need.

The Colorado National Guard Civil Support Team entered Lyons on Thursday

afternoon with three 2.5-ton LMTV trucks carrying supplies and crews, according to Maj. Gordon Hunter.

Photo by LYONS, in 45

Inside

35 homes evacuated in Frederick, Firestone
Officials: Flood is 500-year event **A3**

St. Vrain closed today; many challenges ahead for district **A3**

Longmont water system, wastewater plant shut down **A6**

Where to go for help **A7**

To our readers:

Due to the extreme weather, some deliveries might be delayed or simply impossible.

We apologize for the inconvenience and appreciate your understanding.

So that you do not miss any news, we have made our online replica edition available for free at timescall.com/edition.

—John Fildorukow, managing editor

Transportation

- * Roads
- * Rail
- * Bridges
- * Transit



Other Planning & Preparation

- * Recruit/train staff for experience in emergency operations
- * Develop, maintain and rehearse emergency plan
- * Develop an integrated organizational culture that can adapt to changing priorities
- * Maintain healthy fund balances and reserves
- * Have intergovernmental agreements in place and develop personal relationships w/ local & regional leaders
 - * Schools
 - * Non-profits
 - * Neighboring communities
 - * County
 - * Transit providers

Economic Development Program Assistance

Pre-disaster

- * Build relationships
- * Develop plan for assistance
- * Train businesses in resiliency and continuity
- * Be knowledgeable of external resources



Economic Development Program Assistance

Post-disaster

- * Direct Assistance:
 - * Converted Business Assistance Grants to Disaster Recovery Grants
 - * Waived permit fees for all flood related reconstruction
- * Outreach:
 - * City Eco. Dev. staff--door to door outreach to affected areas
 - * Business outreach partners—
 - * Chamber—calls to members
 - * Longmont Area Economic Council--calls to primary employers
- * Provide access to financial/other resources: SBDC, FEMA, etc.

Shawn Lewis

Assistant City Manager

City of Longmont, CO

shawn.lewis@ci.longmont.co.us

(303) 651-8760

www.ci.longmont.co.us/flood-info