

**BILLINGS FIRE
DEPARTMENT**

LONG RANGE MASTER PLAN

GOALS

- **WORK SESSION PRESENTATION TO COUNCIL WITH DISCUSSION OF FIRE DEPARTMENT LONG-RANGE MASTER PLAN**
- **CITY COUNCIL ADOPTION & DIRECTION TO FIRE DEPARTMENT TO DETERMINE COSTS & FUNDING MECHANISM OF ADOPTED PLAN**

HISTORY

- **ENGAGED ESCI CONSULTING TO PRODUCE LRMP DOCUMENT**
- **NUMEROUS STAKEHOLDERS WERE INVOLVED INCLUDING CITY ADMINISTRATION, CITY COUNCIL MEMBERS, CITY & FIRE DEPT. STAFF**
- **ESCI & FIRE DEPARTMENT PRESENTED FINAL DOCUMENT TO CITY COUNCIL IN FEBRUARY 2018. POSTPONED DUE TO TRANSITION OF CITY ADMINISTRATION**
- **STUDY INCLUDED CURRENT & FUTURE STATION & STAFFING NEEDS DATA**

- **3 DIFFERENT STRATEGIES PRESENTED WERE BASED UPON CRITERION FROM:**
 - 1. NATIONAL FIRE PROTECTION ASSN (NFPA) STANDARDS**
 - 2. INSURANCE SERVICES OFFICE (ISO)**
 - 3. STATE / FEDERAL GUIDELINES & PROTOCOL FOR FIRE, EMS & SPECIAL OPERATIONS**
 - 4. CENTER FOR PUBLIC SAFETY EXCELLENT (CPSE)**
 - 5. GENERALLY ACCEPTED BEST PRACTICES FOR FIRE, EMS & SPECIAL OPERATIONS**

- **SERVICE DELIVERY ANALYSIS IS BASED ON**
 - 1. COMMUNITY RISK ASSESSMENT**
 - 2. POPULATION GROWTH PROJECTIONS**
 - 3. HISTORIC SYSTEM RESPONSE WORKLOAD**
 - 4. RESPONSE UNIT WORKLOAD ANALYSIS**
 - 5. POPULATION & INCIDENT WORKLOAD FORECAST**
 - 6. CRITICAL TASKING & ALARM ASSIGNMENTS**
 - 7. REVIEW OF HISTORICAL SYSTEM PERFORMANCE**

FACTS

(5 YEARS)

- **COB POPULATION** 114,000 (120,840)
- **BUFSA POPULATION** 10,000 (10,600)
- **COB COVERAGE AREA** 43.75 SQ. MILES
- **BUFSA COVERAGE AREA** 47.73 SQ. MILES
- **TOTAL COVERAGE AREA** 91.48 SQ. MILES

FACTS

- **BFD STAFFING BELOW AVERAGE**

1. BILLINGS FIRE .086 FIREFIGHTERS PER 1000

2. REGIONAL AVERAGE .099 FIREFIGHTERS PER 1000

3. NATIONAL AVERAGE 1.34 FIREFIGHTERS PER 1000

FACTS

- **BFD FIRE STATIONS BELOW AVERAGE**

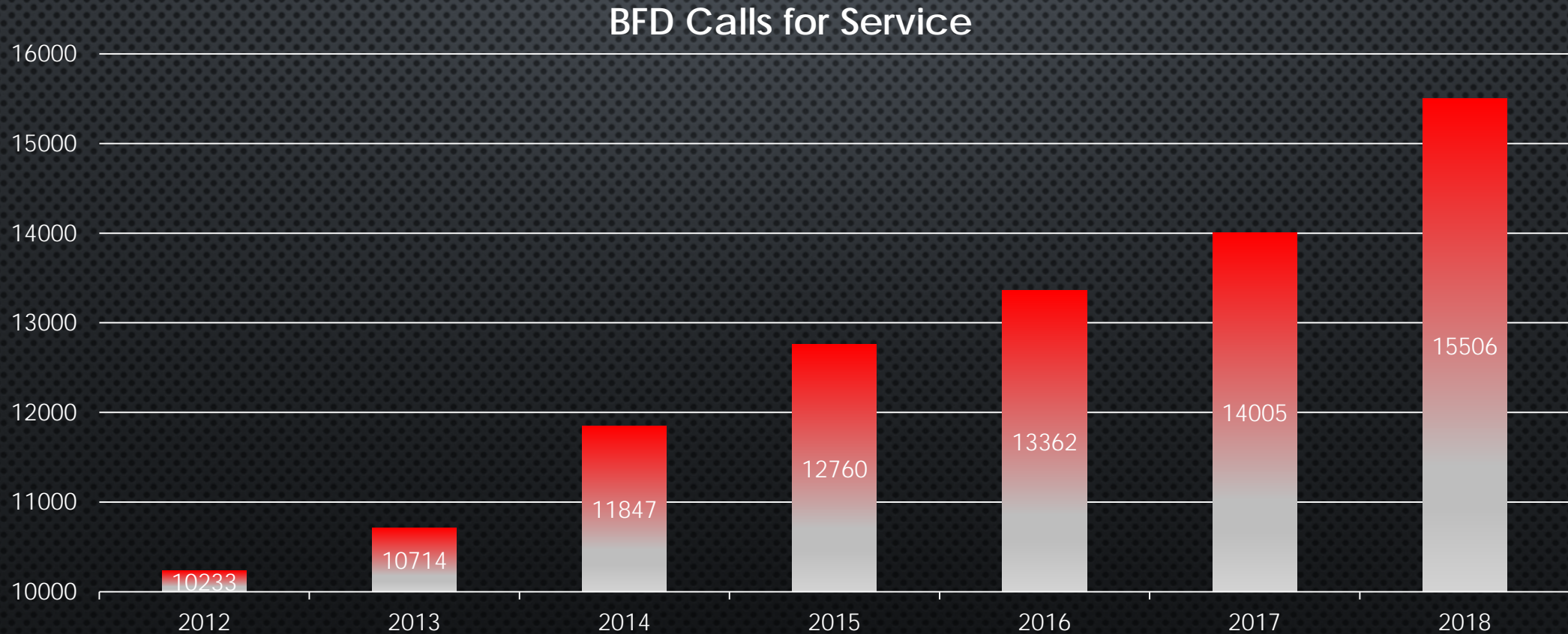
1. **BILLINGS FIRE - TWO STATIONS BELOW NATIONAL AVERAGE**

2. **BILLINGS FIRE - TWO ENGINE COMPANIES BELOW NATIONAL AVERAGE**

3. **BILLINGS FIRE - ONE AERIAL FIRE APPARATUS BELOW NATIONAL AVERAGE**

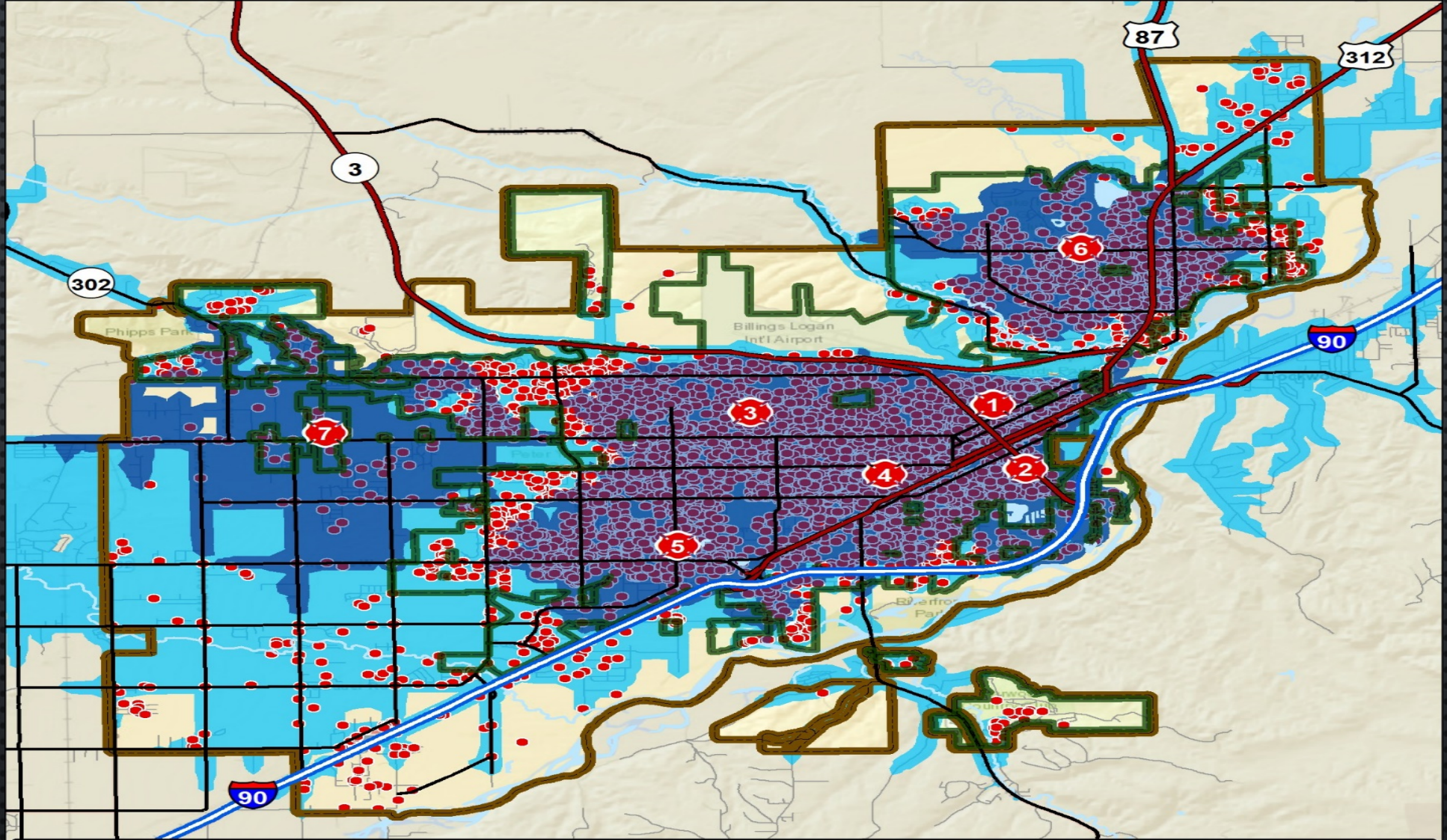
FACTS

**BILLINGS FIRE HAS INCREASED OVER 51%
INCREASE IN CALLS FOR SERVICE**



STATION / STAFFING PREFACE

- STATION PLACEMENT IS BASED UPON NFPA & ISO RESPONSE STANDARDS
 - STANDARDS CONSIDER FIRE SCIENCE, PATIENT OUTCOMES, ETC.
 1. FIRST DUE ENGINE IS 4 MINUTES – 90% (FIRE, EMS & SPEC OPS)
 2. FIRST ALARM ASSIGNMENT IS 8 MINUTES – 90%
 3. ISO 3 RATING IF 5 ROAD MILES FROM A BFD FIRE STATION
- BFD FIRST ENGINE—1 ENGINE ARRIVING FROM THE FIRST ALARM RESPONSE
- BFD FIRST ALARM – 4 ENGINES, 1 AERIAL & 1 BC - 16 PERSONNEL
- AVERAGE TIME FOR BFD FIRST DUE ENGINE ARRIVAL WAS 7 MINUTES, 28 SECONDS 90% OF THE TIME. NEARLY TWICE THE RESPONSE TIME AS STANDARD (4 MIN)
- AVERAGE TIME FOR BFD FIRST ALARM ARRIVAL WAS 14 MINUTES, 55 SECONDS 90% OF THE TIME. JUST UNDER TWICE THE RESPONSE TIME AS STANDARD (8 MIN)



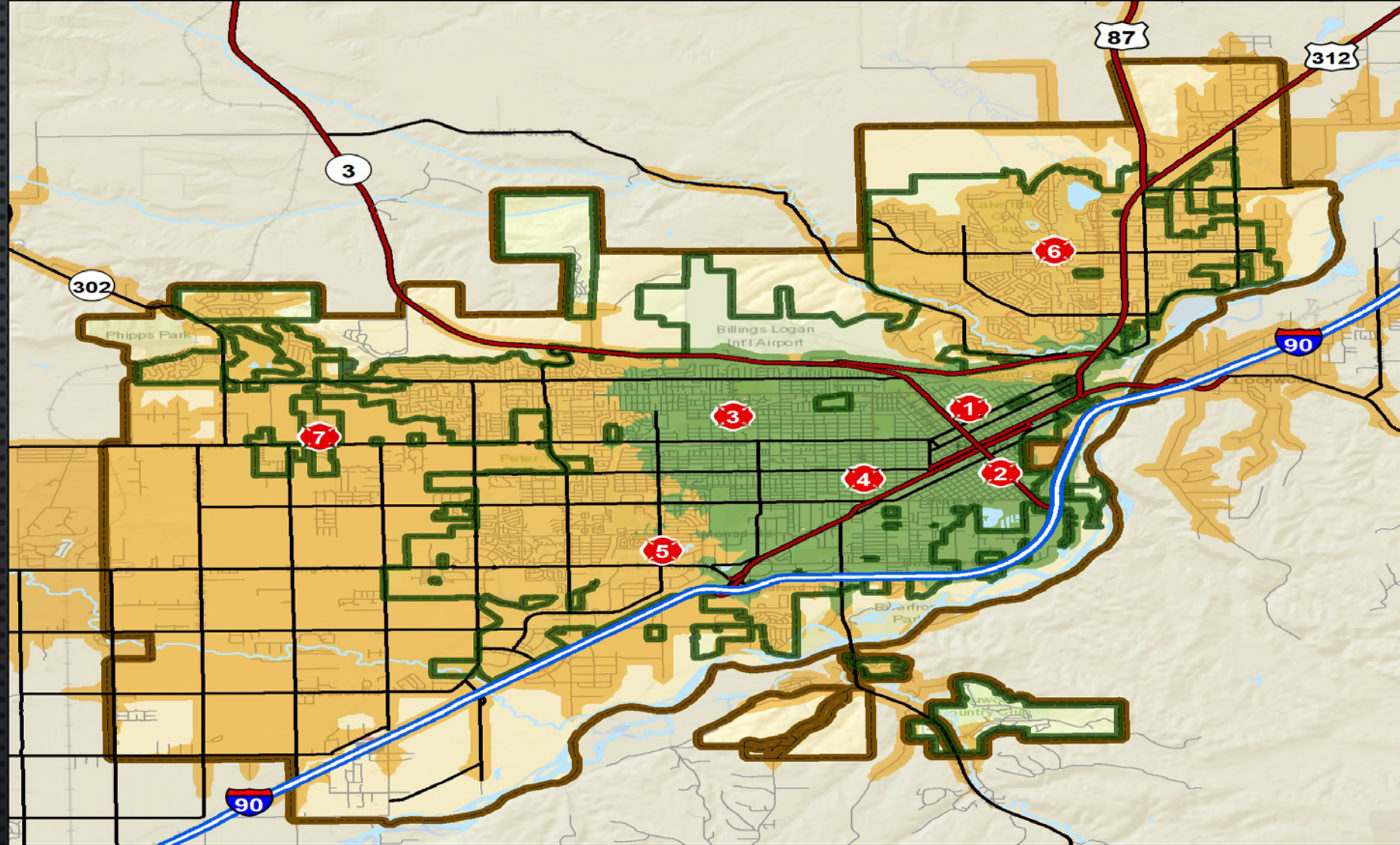
**Billings Fire Department
Study Area**

-  BFD Fire Station
-  City of Billings
-  BUFSA



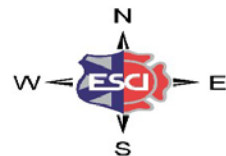
**Study Area Travel Time Model
and FY 2017 Service Demand**

-  FY 2017 Incidents
-  4 Minutes Travel
-  8 Minutes Travel



**Billings Fire Department
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**Study Area ERF- Full First Alarm
4 Engines, 1 Aerial Apparatus**

Full First Alarm- 8 Minutes Travel

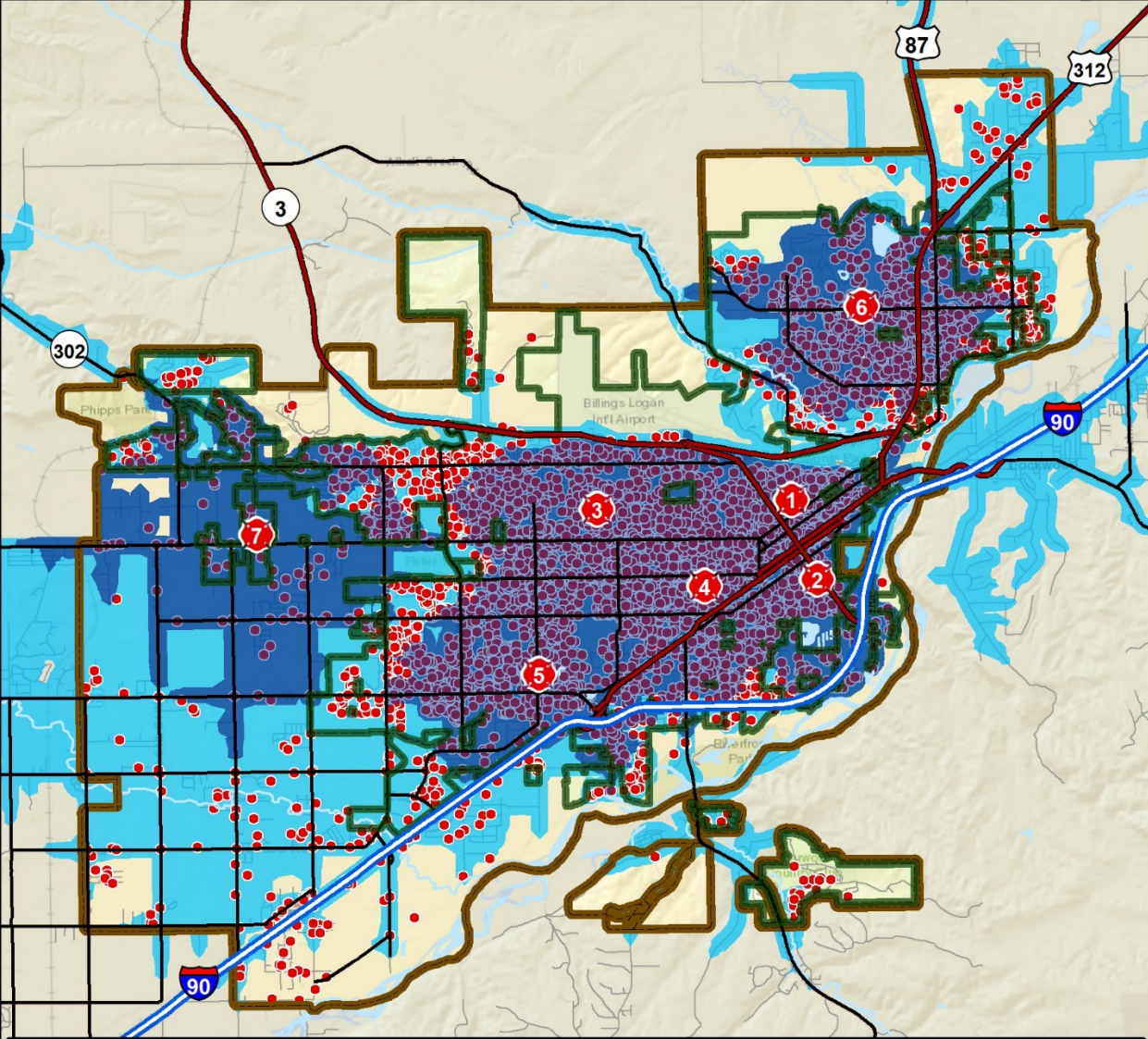
-  Full First Alarm Achieved
-  First Alarm Not Achieved

COMPARISONS & POPULATION SERVED




• BILLINGS HEIGHTS	31,000	1 STATION
• HELENA	31,000	2 STATIONS
• BUTTE	33,901 (36,400)	2 STATIONS
• BOZEMAN	45,000	3 STATIONS

STATION RECOMMENDATIONS

- **STRATEGY #1**
 - MAINTAIN CURRENT STATION PLACEMENT
 - BUILD & STAFF ONE ADDITIONAL STATION (FS #8) IN THE HEIGHTS (LAKE ELMO / TOPAZ / HILLTOP AREA)
 - 12 FIREFIGHTERS
 - 3 BATTALION CHIEFS (BC VEHICLE)
 - 1 ENGINE

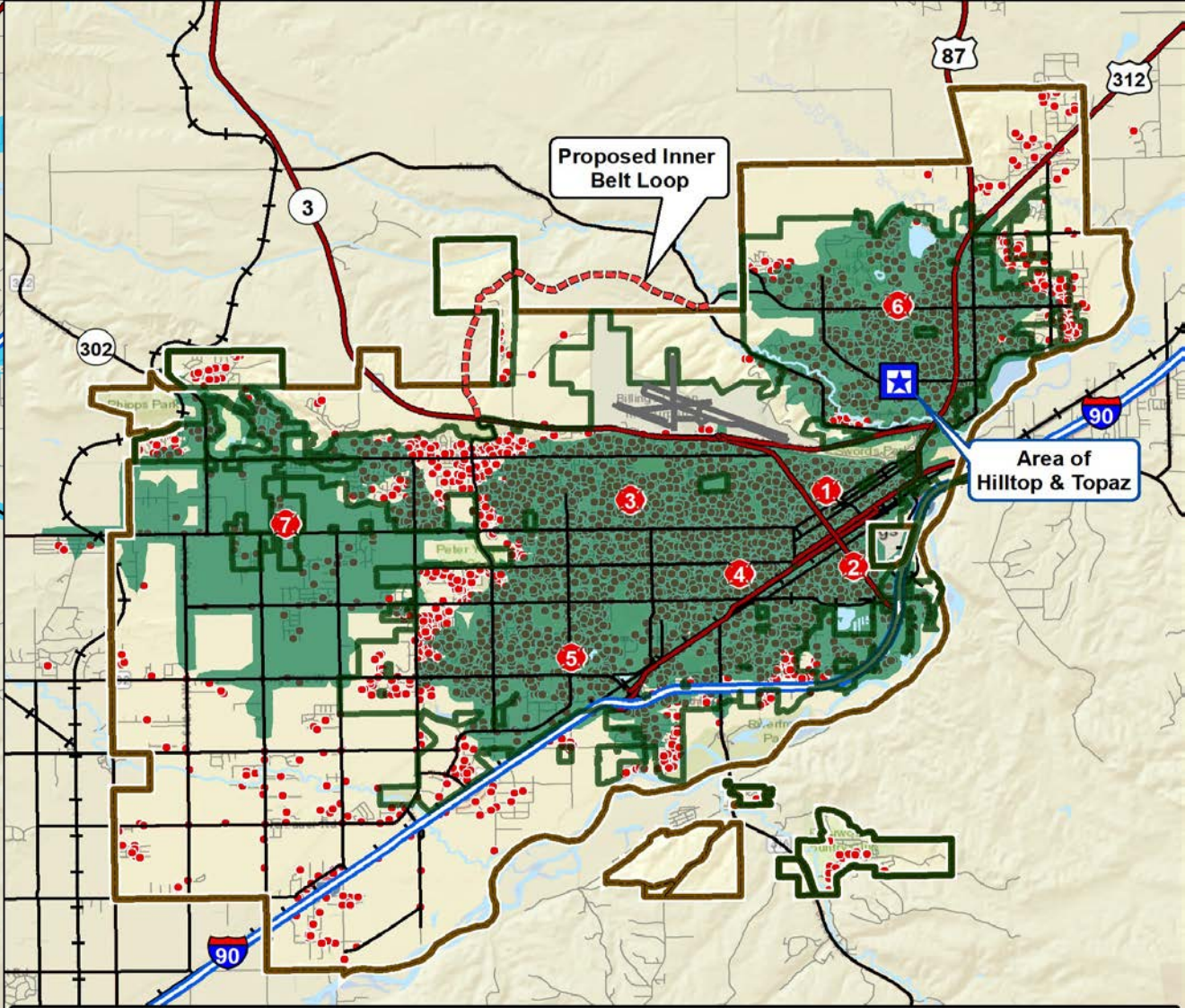


Billings Fire Department Study Area




-  BFD Fire Station
 -  City of Billings
 -  BUFGA
- W ← ESCJ → E
N ↑ ↓ S
- Miles
0 1 2 3 4 5

Study Area Travel Time Model and FY 2017 Service Demand

-  FY 2017 Incidents
-  4 Minutes Travel
-  8 Minutes Travel



Billings Fire Department Study Area

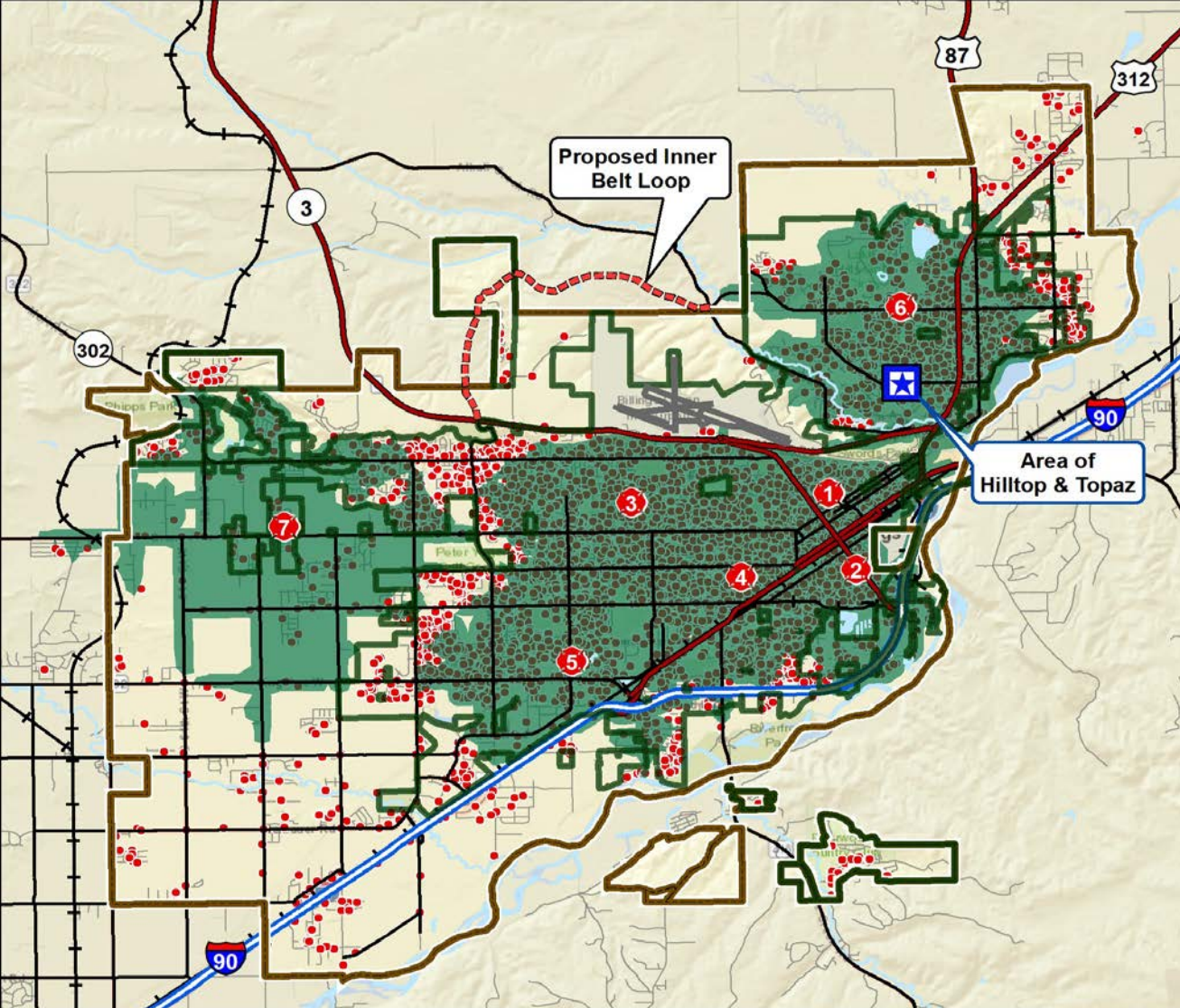
-  BFD Fire Station
 -  City of Billings
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- W ← ESCJ → E
N ↑ ↓ S
- Miles
0 1 2 3 4 5

Travel Time Model - Proposed Station Deployment Strategy 1

-  Proposed Station Location
-  FY 2017 Incidents
-  4 Minutes Travel

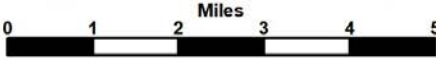
STATION RECOMMENDATIONS

- STRATEGY #2
 - MAINTAIN CURRENT STATION PLACEMENT
 - BUILD & STAFF HEIGHTS STATION (FS #8)
 - BUILD & STAFF WEST END STATION (FS #9) NEAR 48TH & HESPER
 - 24 FIREFIGHTERS
 - 3 BATTALION CHIEFS (BC VEHICLE)
 - 2 ENGINES



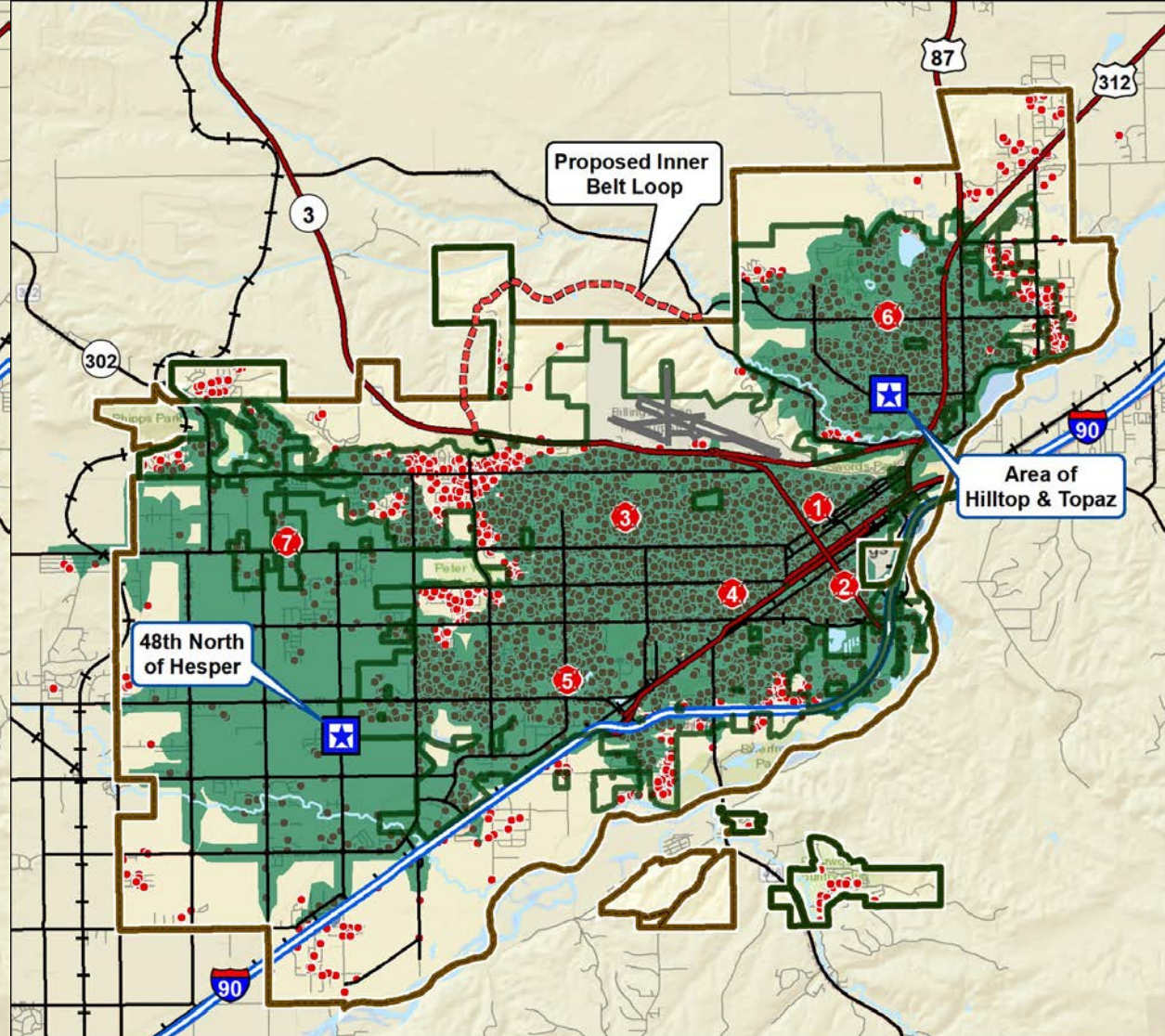
Billings Fire Department Study Area

- BFD Fire Station
- City of Billings
- BUFGA



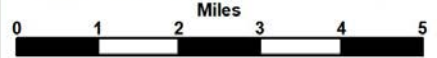
Travel Time Model - Proposed Station Deployment Strategy 1

- Proposed Station Location
 - FY 2017 Incidents
- Travel Time**
- 4 Minutes Travel



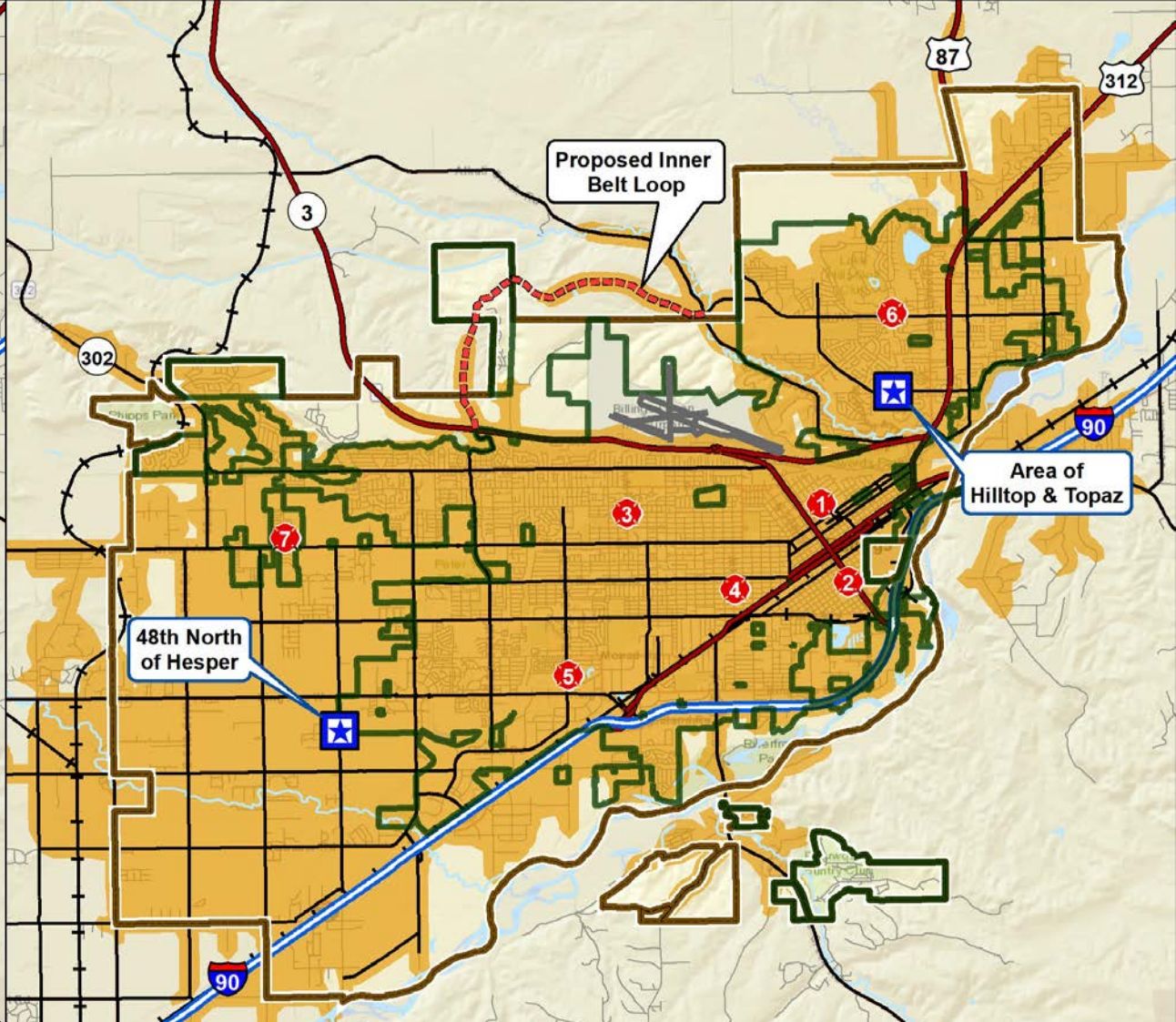
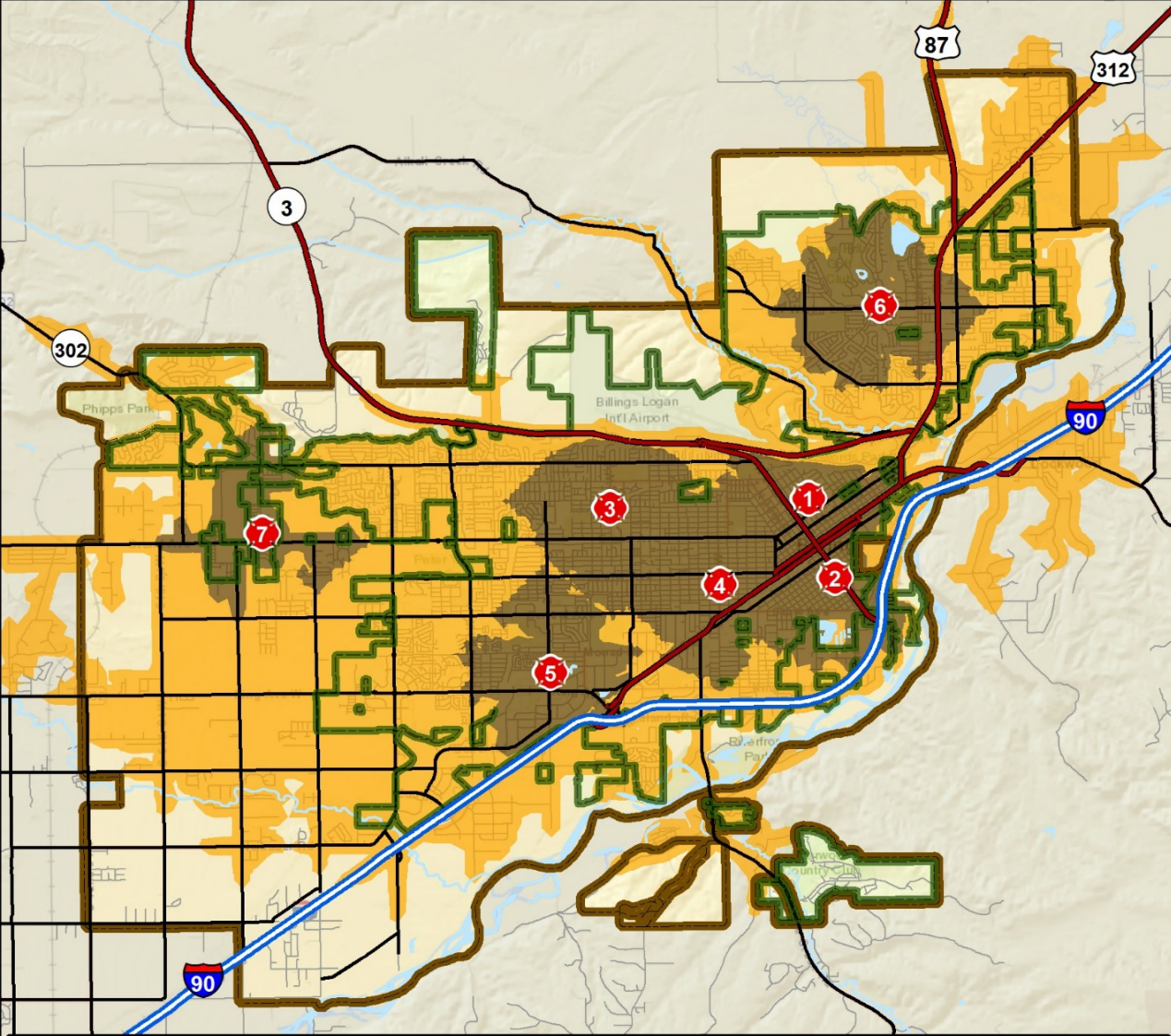
Billings Fire Department Study Area

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- BUFGA



Travel Time Model - Proposed Station Deployment Strategy 2

- Proposed Station Location
 - FY 2017 Incidents
- Travel Time**
- 4 Minutes Travel



Billings Fire Department Study Area

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Miles 0 1 2 3 4 5

Study Area Station Distribution (ISO Criteria)

Travel Distance

- 1.5 Miles Travel
- 5 Miles Travel

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Miles 0 1 2 3 4 5

Travel Distance Model (ISO)- Proposed Station Deployment Strategy 2

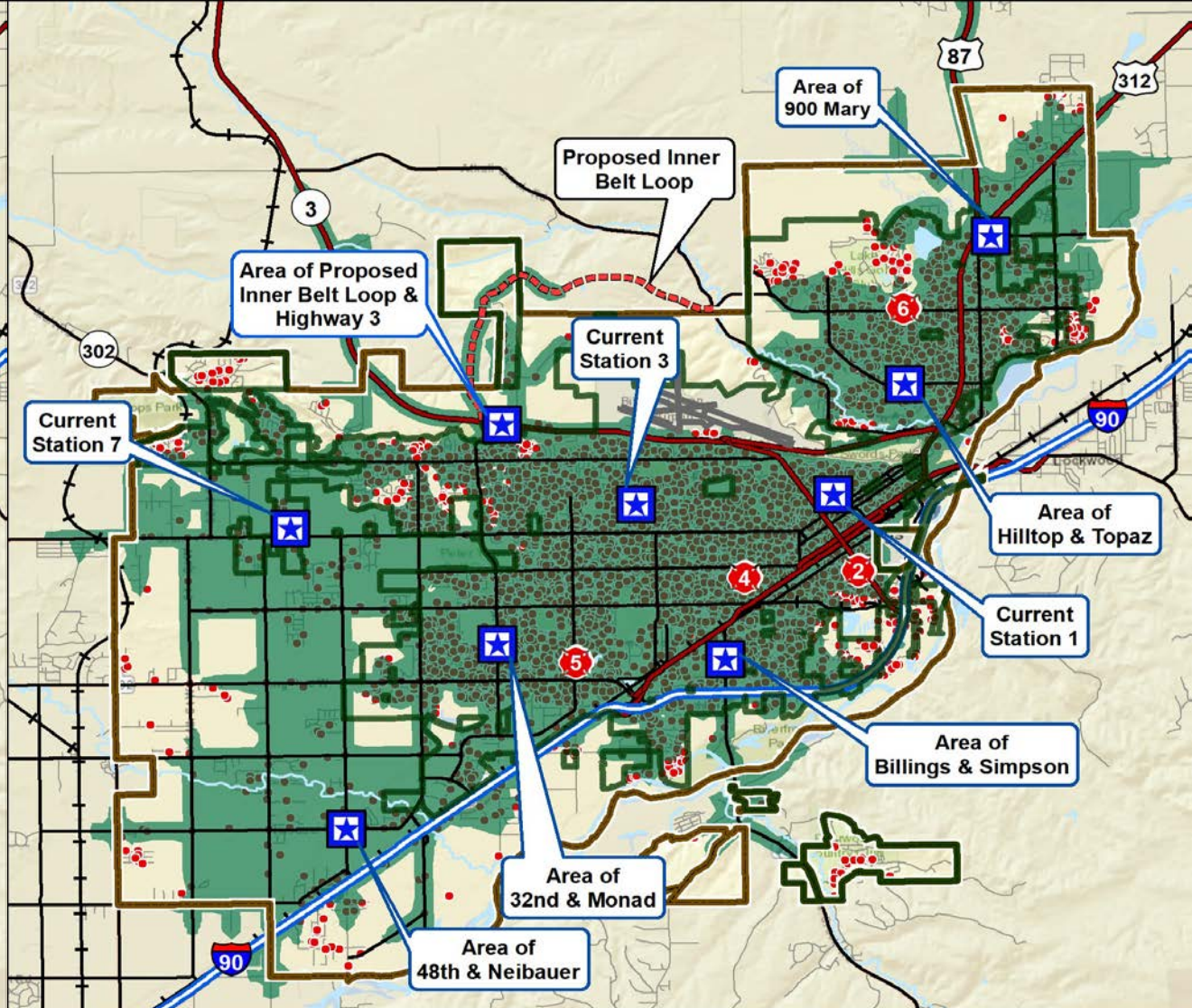
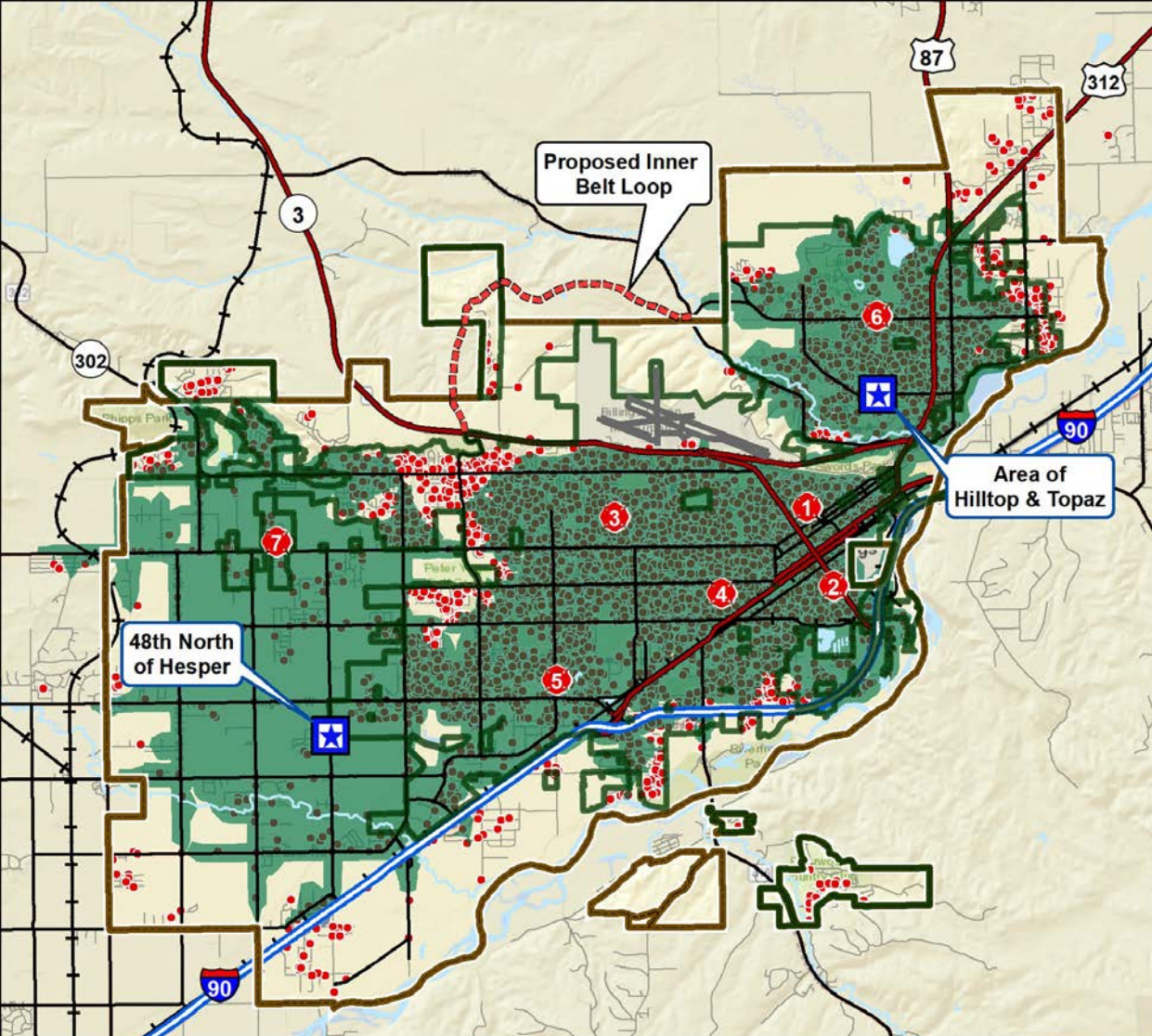
- Proposed Station Location

Travel Distance (ISO Criteria)

- 5 Miles Travel

STATION RECOMMENDATIONS

- **STRATEGY #3**
 - BUILD & STAFF FIRE STATIONS 8 & 9. HEIGHTS & WEST END
 - RELOCATE CURRENT STATIONS #2 (SOUTHSIDE), #4 (TERRY PARK), #5 (24TH ST) & #6 (HEIGHTS-FARTHER NORTH)
 - COST OF BUILDING (RELOCATING) FOUR FIRE STATIONS
 - NO ADDITIONAL STAFFING OR EQUIPMENT BEYOND NEW #8 & #9



Billings Fire Department Study Area

- BFD Fire Station
- City of Billings
- BUFGA

W ← ESCI → E

N
S

0 1 2 3 4 5 Miles

Travel Time Model - Proposed Station Deployment Strategy 2

- Proposed Station Location
- FY 2017 Incidents
- 4 Minutes Travel

Travel Time

Billings Fire Department Study Area

- BFD Fire Station
- City of Billings
- BUFGA

W ← ESCI → E

N
S

0 1 2 3 4 5 Miles

Travel Time Model - Proposed Station Deployment Strategy 3

- Proposed Station Location
- FY 2017 Incidents
- 4 Minutes Travel

Travel Time

SUMMARY

- CONSIDERATION OF NEED FOR NEW STATIONS TO COME CLOSER TO STANDARDS AS STANDARDS ARE SCIENCE BASED
- POTENTIAL DECREASED INSURANCE PREMIUMS – IMPROVED ISO RATING
- CONSIDERATION OF CURRENT NEEDS
- FUTURE POPULATION GROWTH PROJECTIONS
- FUTURE ANNEXATION PROJECTIONS
- PRESENT AND FUTURE SERVICE DEMAND

GOALS REVIEW

- **WORK SESSION PRESENTATION TO COUNCIL WITH DISCUSSION OF FIRE DEPARTMENT LONG-RANGE MASTER PLAN**
- **CITY COUNCIL ADOPTION & DIRECTION TO FIRE DEPARTMENT TO DETERMINE COSTS & FUNDING MECHANISM OF ADOPTED PLAN**