

Indianola Fire Department Staffing Study

City Council Meeting

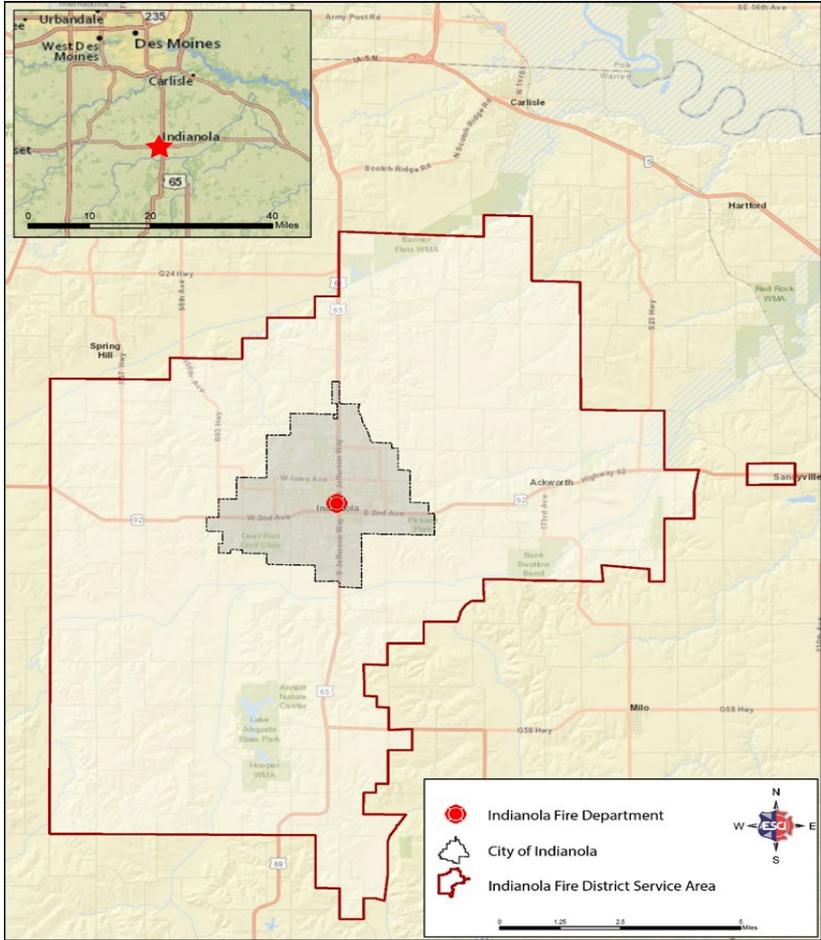
May 21, 2018

ESCI Emergency Services
Consulting International

Providing Expertise and Guidance that Enhances Community Safety



Career Fire Stations	1
Storage/ Facilities	2

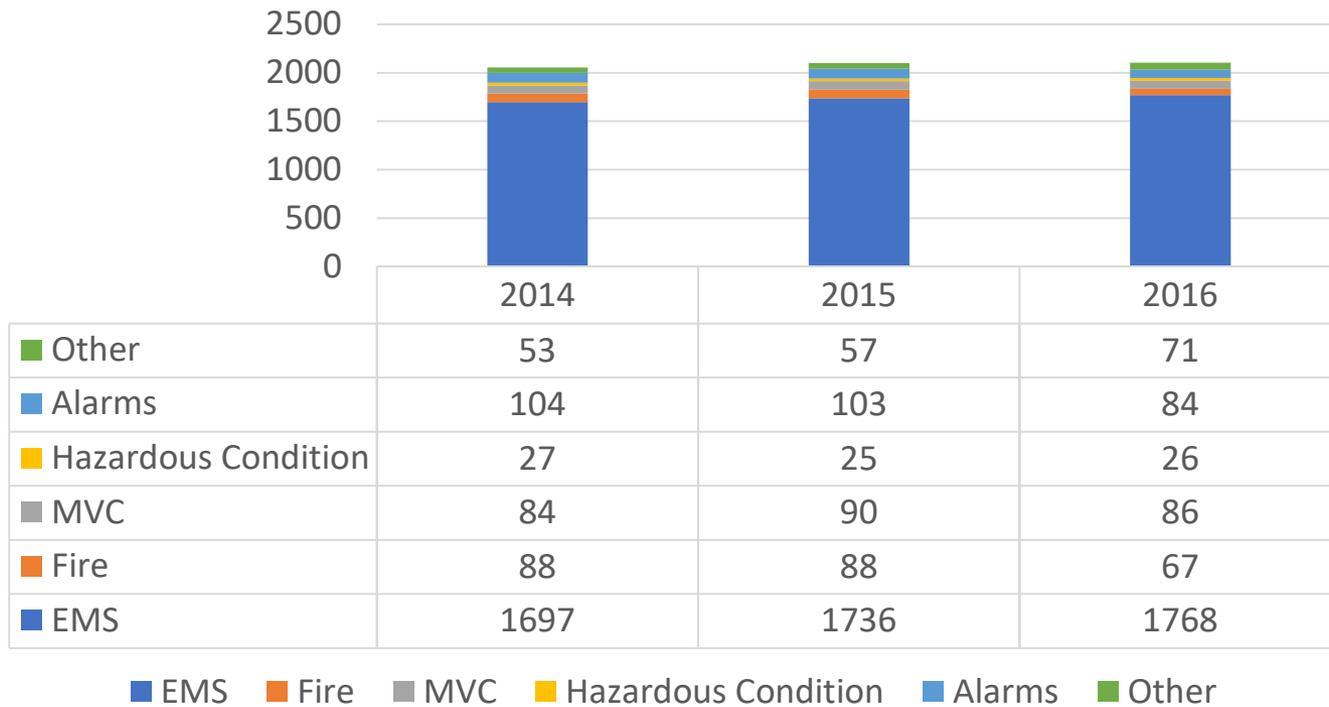


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Service Demand by Year and Type 2014-2016

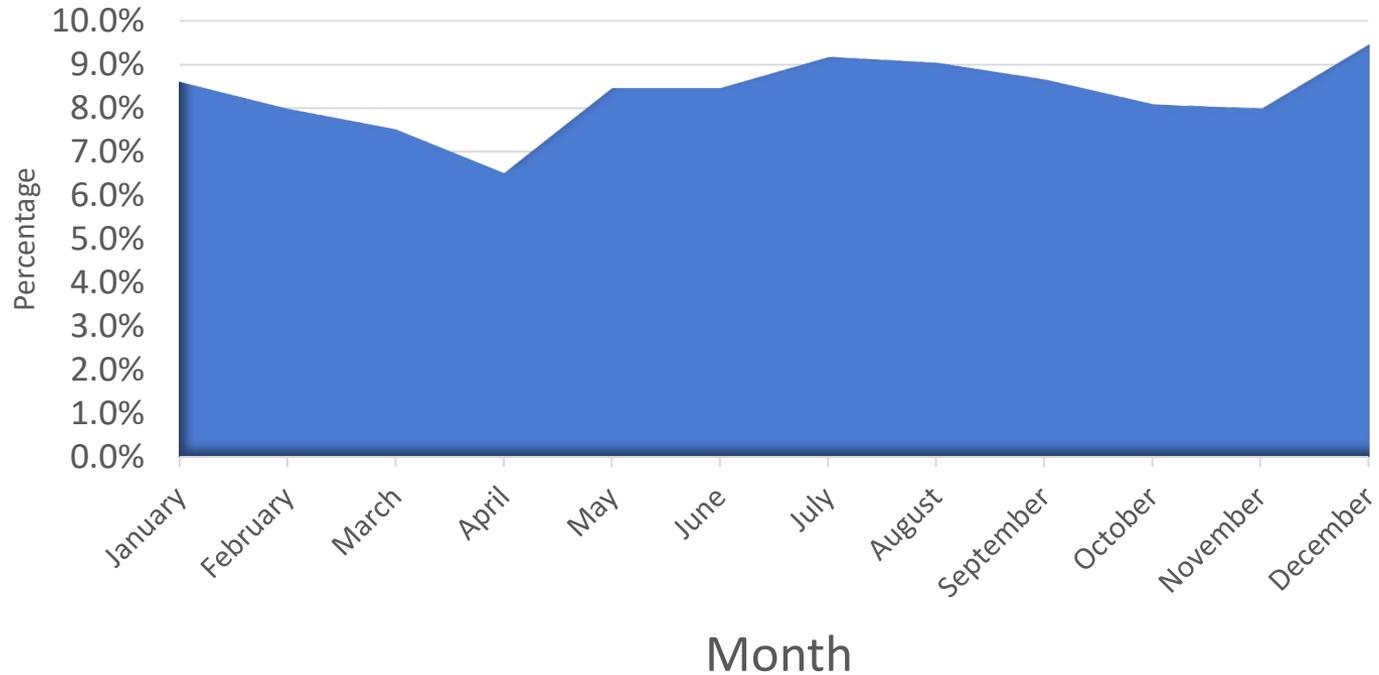


Service Delivery and Performance

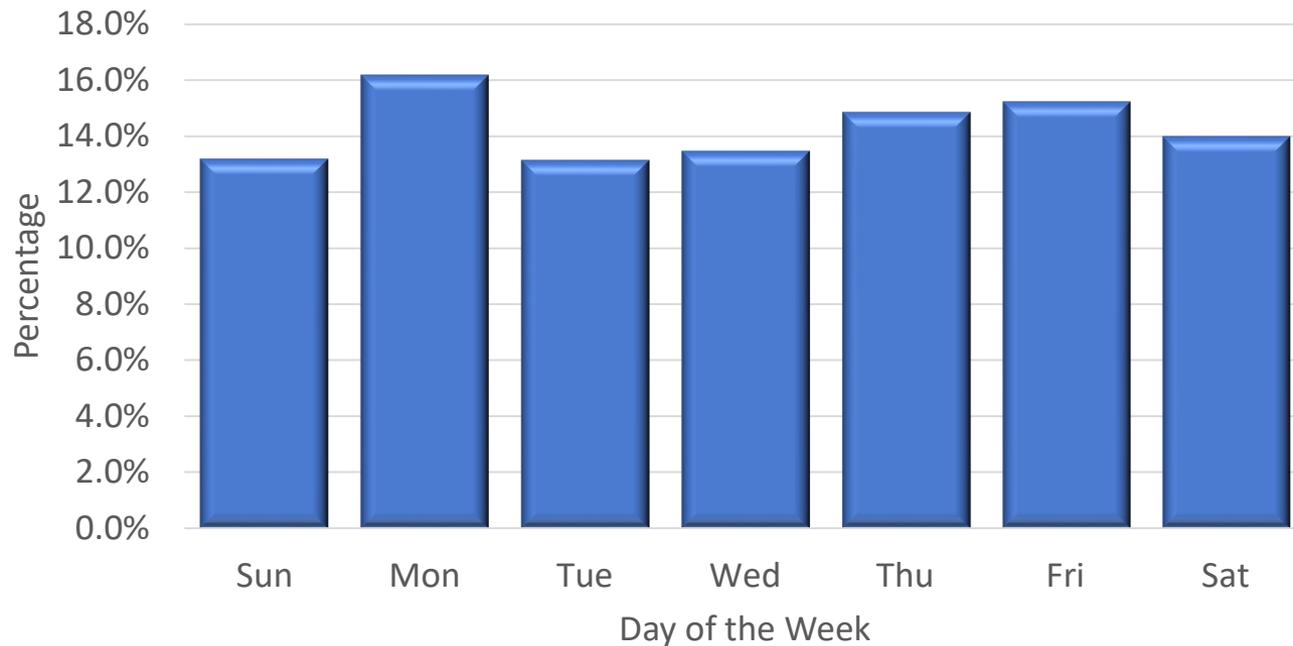
Temporal Analysis Demand by Month, Day and Time



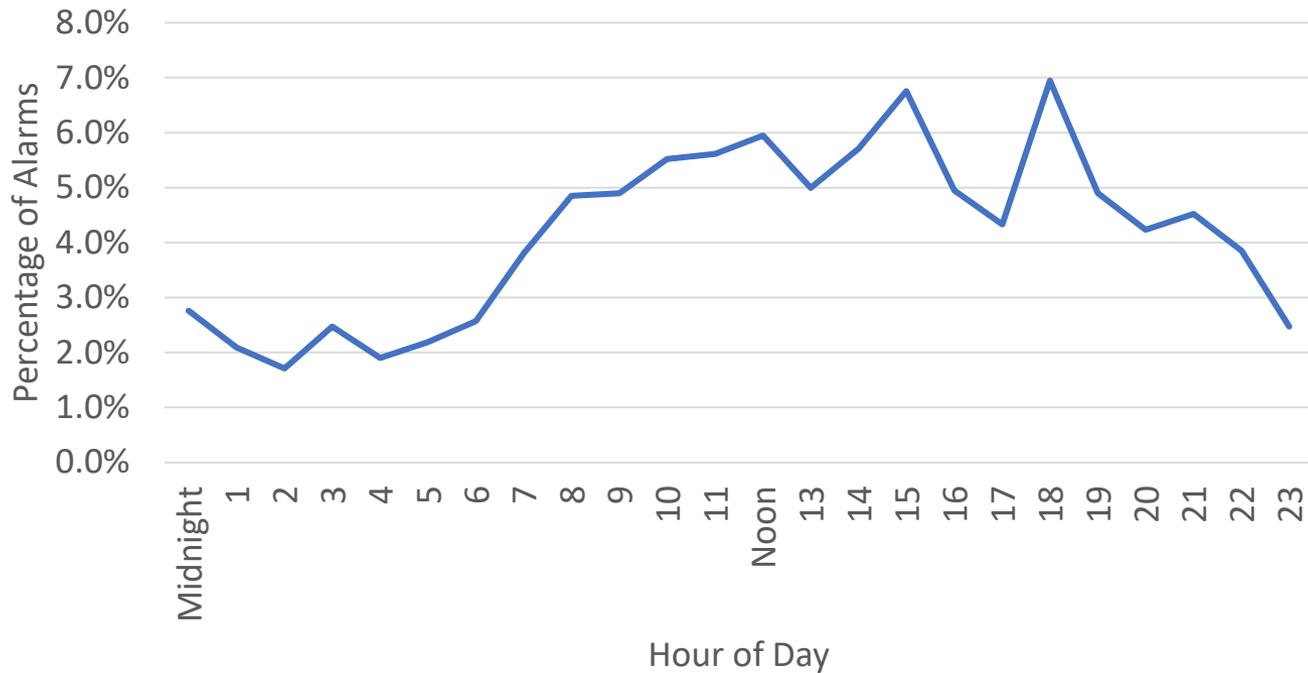
Demand by Month 2016



Demand by Day of the Week 2016



Demand by Hour 2016



Incident Response Requirements



NFPA 1720 Deployment Model

Demand Zones	Demographics	Min. Staff to Respond	Response Time (minutes)	Performance Objective
Urban	More than 1,000 people per sq. mi.	15	9	90
Suburban	500 to 1,000 people per sq. mi.	10	10	80
Rural	Less than 500 people per sq. mi.	6	14	80
Remote	Travel Distance 8 miles or more	4	Dependent upon travel distance	90
Special Risk	AHJ determines	Based on risk	AHJ determined	90



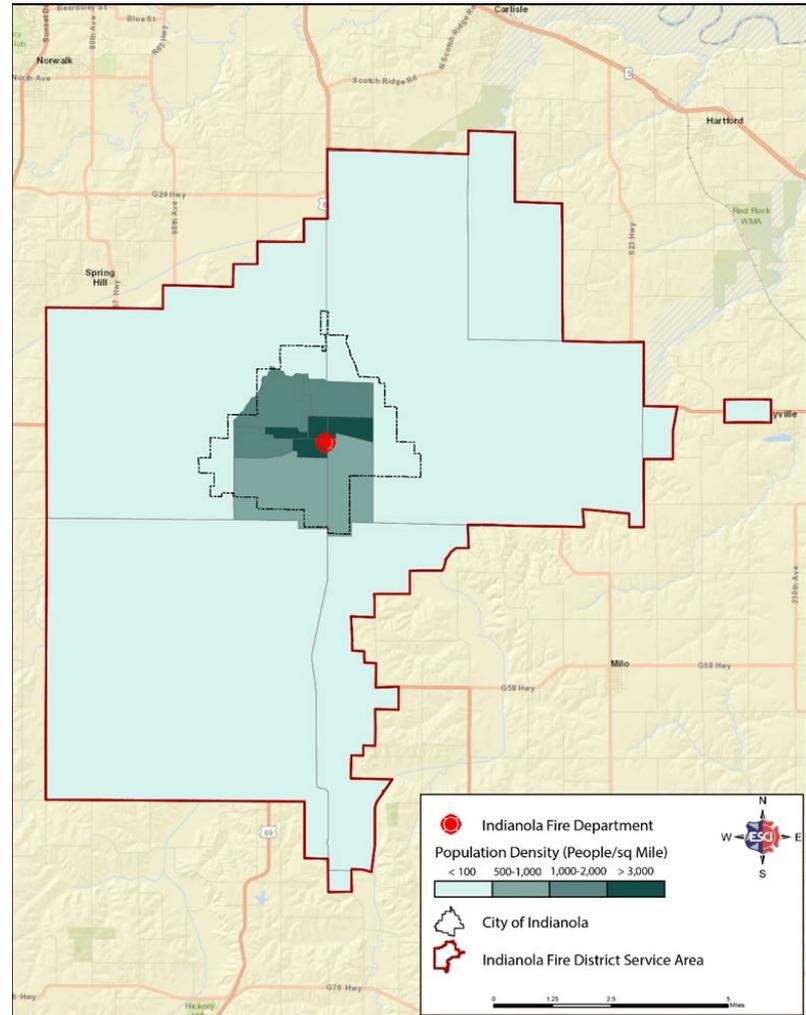
Service Delivery and Performance

Resource Distribution



Population Density

- <100
- 500-1000
- 1000-2000
- >3000



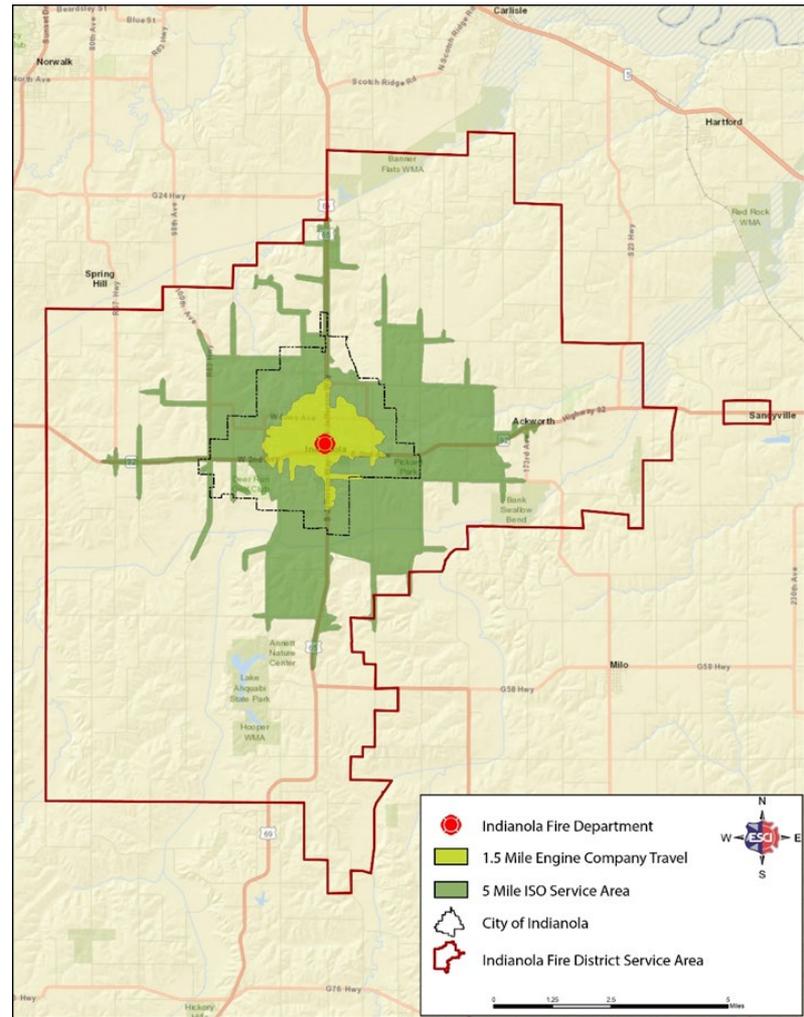
Service Delivery and Performance

ISO Distribution



ISO Criteria Fire Station Distribution

- Engine Coverage 1.5 miles
- Station Coverage 5 miles
- 291 total road miles
- 44 miles or 18.7 % within 1.5 miles
- 156 miles or 53.6% are within 5 miles



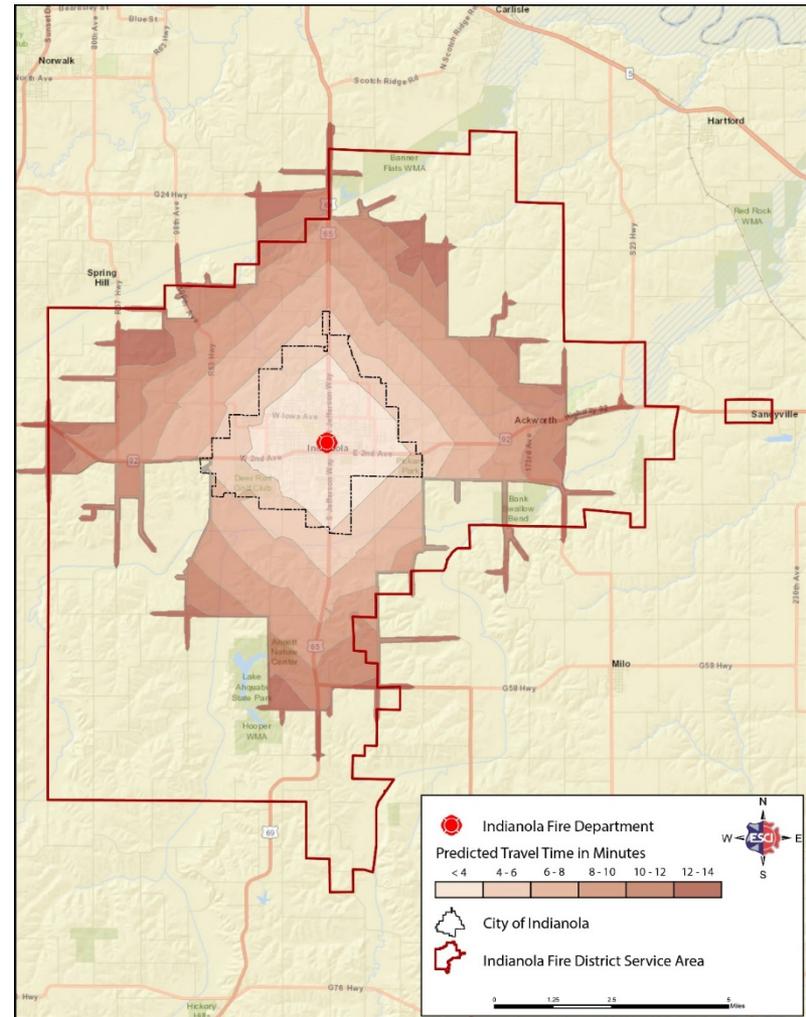
Service Delivery and Performance

Resource Concentration



Resource Concentration

- Indianola can expect to put the number of firefighters on duty inside the city in less than 4-6 minutes.
- Resource concentration is limited to the on duty crew and POC responders.
- From 8 am-5 pm 6 FF if everyone is available.



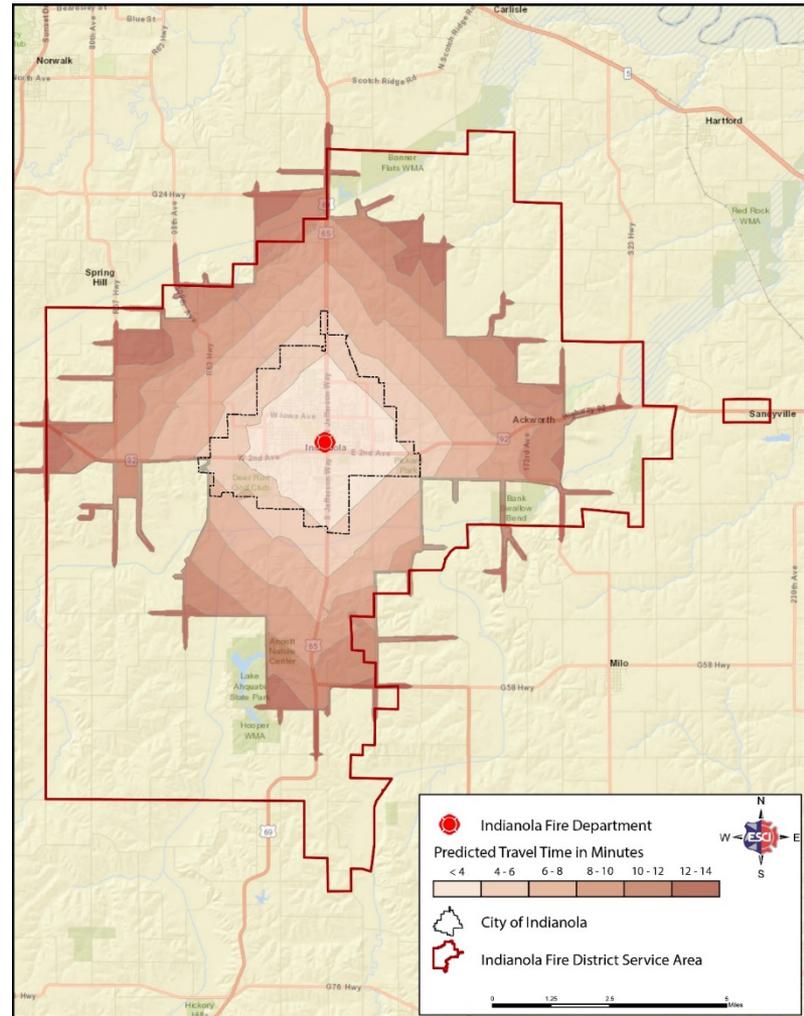
NFPA 1720 Deployment Model

Demand Zones	Demographics	Min. Staff to Respond	Response Time (minutes)	Performance Objective
Urban	More than 1,000 people per sq. mi.	15	9	90
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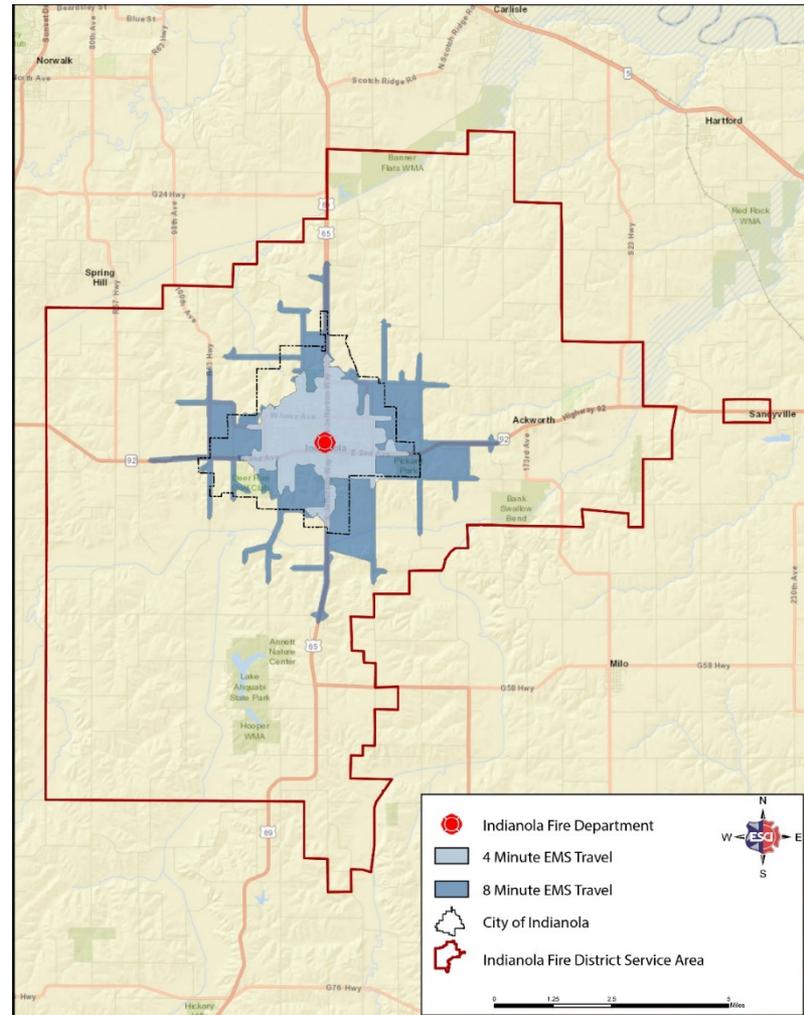
Urban and Rural Demand Zones

- Urban > 1000 people per sq. mile
- Rural <500 people per sq. mile
- Predicted travel distances in minutes



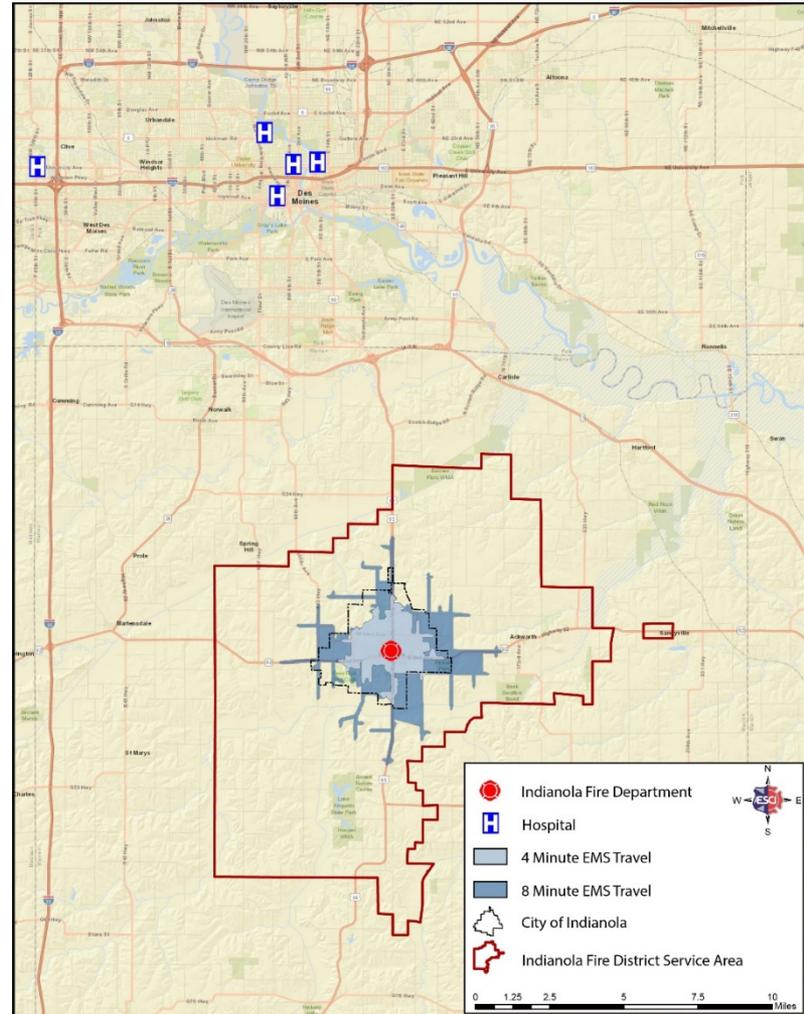
EMS Response

- ALS 4 minutes 90% of the time
- ALS 8 minutes 90% of the time



EMS Response

Indianola can expect long turnaround times for their transport units based on hospital locations.



Service Delivery and Performance

Resource Reliability



Service Call Concurrency

Concurrent Calls	Percentage
1	69%
2	25%
3	4%
4 or more	1%



Service Call Concurrency

Number of Units	Percentage of Incidents
1	91.38%
2	6.18%
3	1.79%
4	0.50%
5	0.10%
6 or more	0.05%



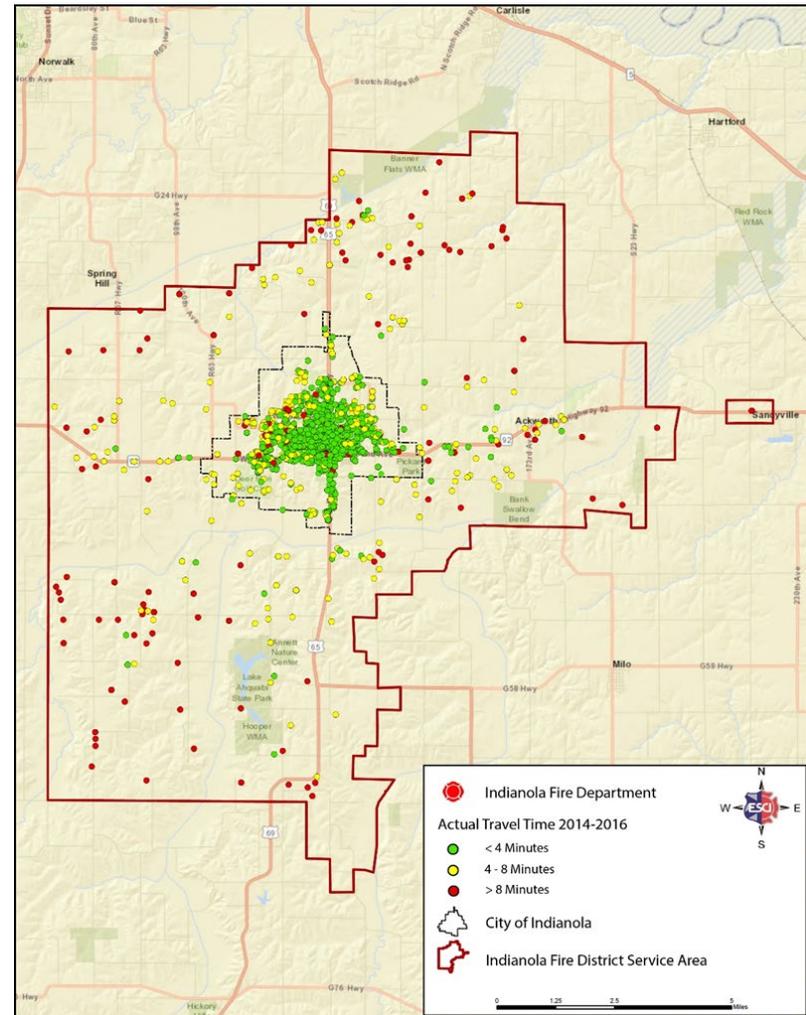
Service Delivery and Performance

Response Times



Historical Travel Performance 2014-2016

- Green < 4 Minutes
- Yellow 4-8 minutes
- Red > 8 Minutes



Resource Deployment Options



Analysis Conclusions

- The analysis confirmed that the current fire station location is well suited and provides the best option for fire station location.
- Greatest need indicated by the preceding evaluation is the addition of firefighters in the existing station.



Analysis Conclusions

- The analysis demonstrates that a minimally staffed fire station, with only three career firefighters assigned per 24 hour period and two part-time firefighters at the station and who are required to cross-staff ambulances and fire engines, does not provide the level of effectiveness that could be obtained by either altering peak hour configurations or increasing the number of career dedicated staff.



General Considerations Derived

- Maintaining at least four firefighters at station 1 provides IFD with the ability to respond to multiple calls from the same location within the respective fire station service area and potentially reduces the frequency of units not being available for service.
- This is only possible from 8 am to 5 pm currently.



General Considerations Derived

- Due to limited staffing and distribution across a large and sparsely populated geographical area, it is not currently possible for IFD to meet any national consensus standards for response time, coverage or the assembly of an effective response force (ERF).
- Therefore, ESCI recommends either an increase of paid-on-call, peak hour staff, and or increasing dedicated career staff.



General Considerations Derived

- Due to the practice of cross-staffing units, minimal staffing and the complete depletion of available units when any one apparatus is committed to a call, response times are relatively high.



Service Delivery Option 1A

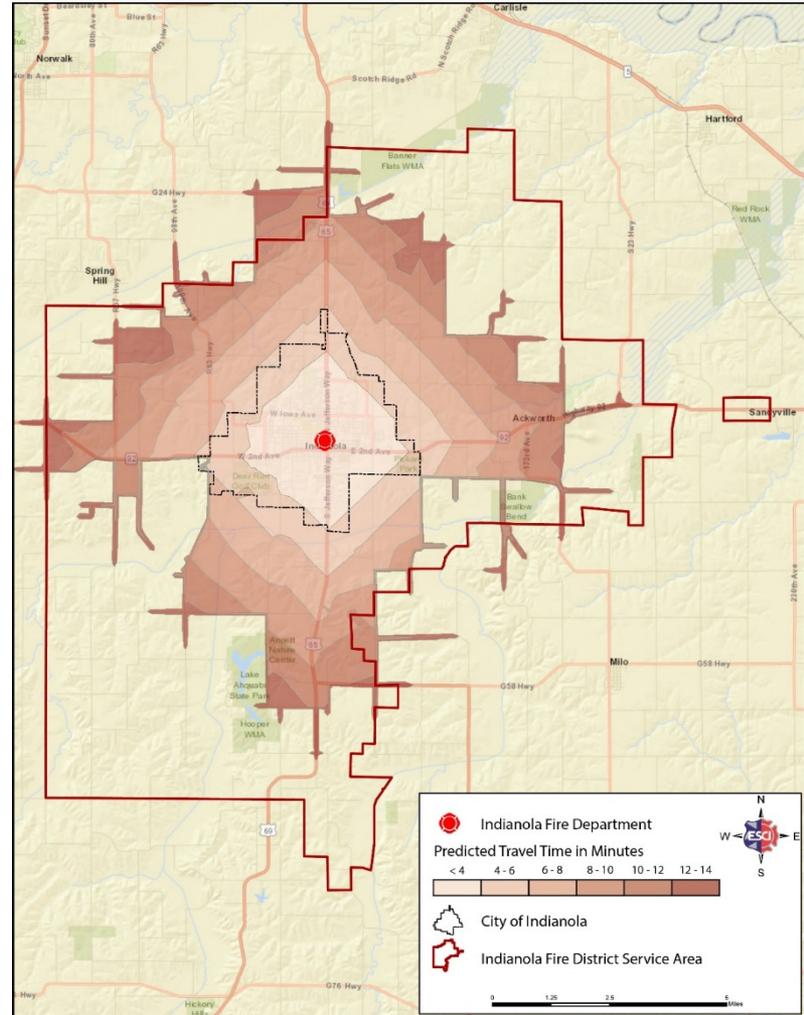
- Option 1A) Maintain status quo with no additional staff added.

	Station 1		Shift	Shift Total
Chief	1	FTE	8-5	1
Captain	1	FTE	8-5	1
Engine	3	FTE	24/7	3
Rescue	2	Part-time	8-5	2
				7



Resource Concentration Option 1A

- Indianola can expect to put the number of firefighters on duty inside the city in less than 4-6 minutes.
- From 8 am-5 pm 7 FF if everyone is available.
- 3 FF after day crews go home.
- Does not meet the NFPA 1720 standard inside the city.



Financial Impact Option 1A

- Option 1A) Maintain status quo with no additional staff added.
- No financial increase.



Service Delivery Option 1B

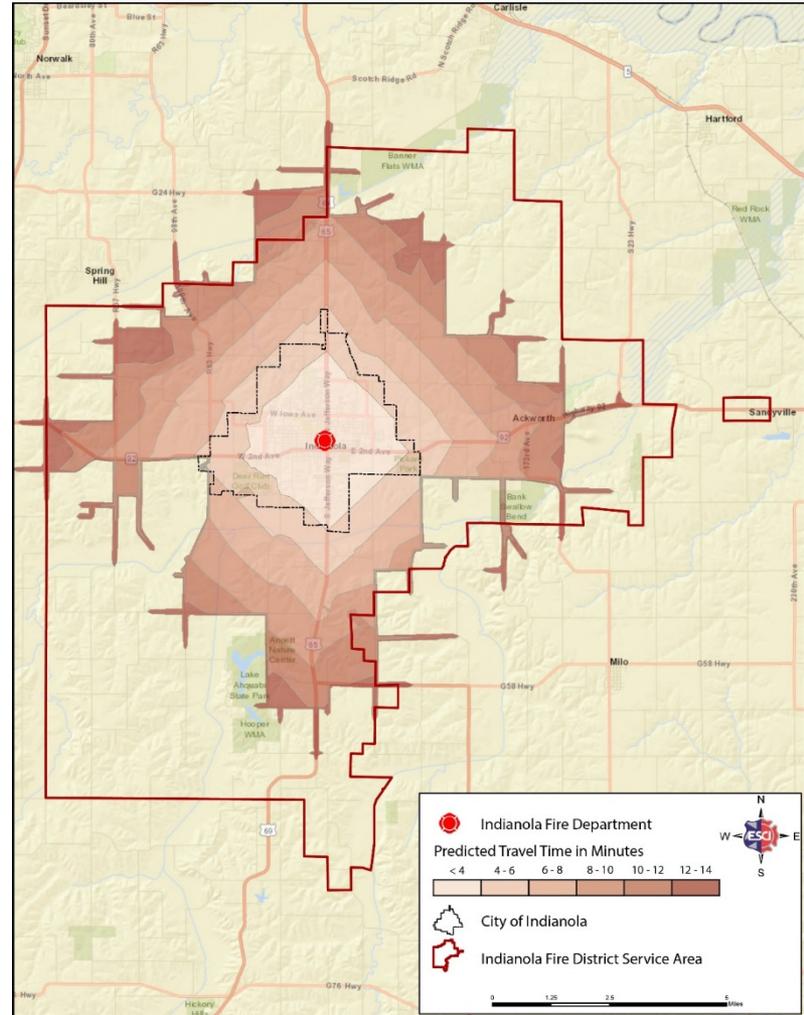
- Option 1B) Maintain status quo and shift the current hours of operation from 8 am to 5 pm for the part-time staff to better match peak hour demands.

	Station 1		Shift	Shift Total
Chief	1	FTE	8-5	1
Captain	1	FTE	8-5	1
Engine	3	FTE	24/7	3
Rescue	2	Part-time	10-7	2
				7



Resource Concentration Option 1B

- Indianola can expect to put the number of firefighters on duty inside the city in less than 4-6 minutes.
- From 10 am-5 pm 7 FF if everyone is available.
- From 5pm-7pm 5 FF if everyone is available.
- 3 FF after day crews go home.
- Does not meet the NFPA 1720 standard inside the city.



Financial Impact Option 1B

- Option 1B) Maintain status quo and shift the current hours of operation from 8 am to 5 pm for the part-time staff to better match peak hour demands.
- No financial change, increases coverage during peak times.



Service Delivery Option 2A

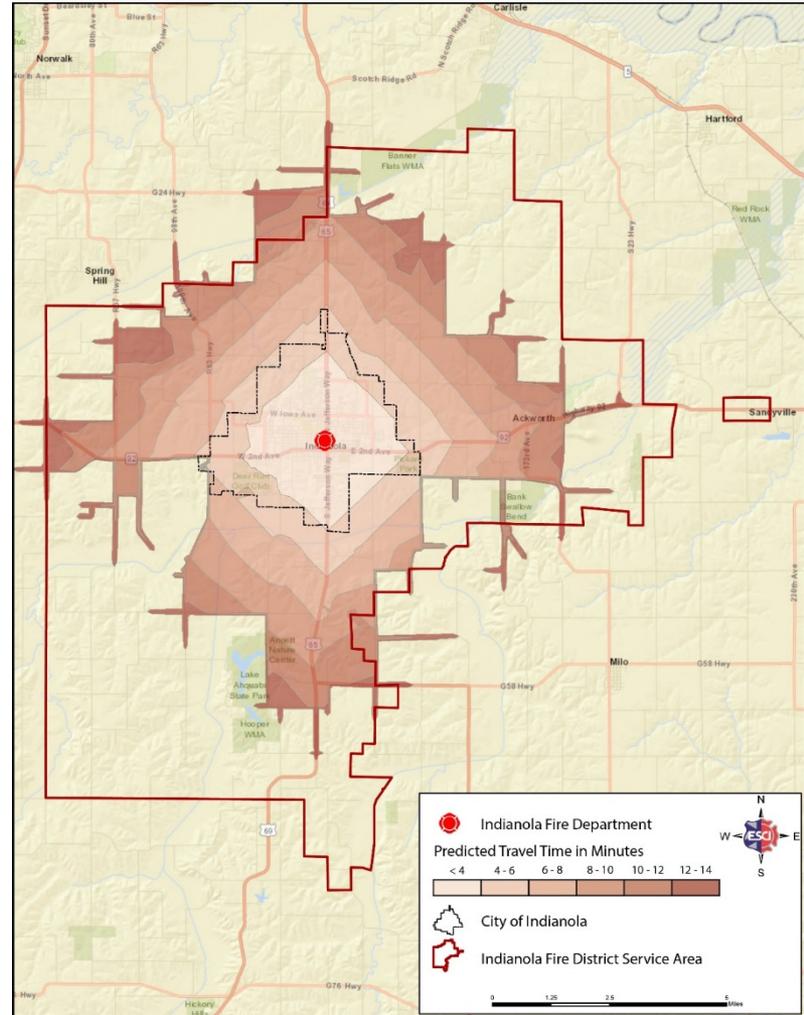
- Option 2A) Increase part time staffing levels at current station to 12 hour shifts to cover more of the peak hour demands. (2.0 for 24/7 with 12 hours Peak Demand Unit)

	Station 1		Shift	Shift Total
Chief	1	FTE	8-5	1
Captain	1	FTE	8-5	1
Engine	3	FTE	24/7	3
Rescue	2	Part-time	7-7	2
				7



Resource Concentration Option 2A

- Indianola can expect to put the number of firefighters on duty inside the city in less than 4-6 minutes.
- From 10am-5 pm 7 FF if everyone is available.
- From 7am-7pm 5 FF if everyone is available.
- 3 FF after day crews go home.
- Does not meet the NFPA 1720 standard inside the city.



Financial Impact Option 2A

- Option 2A) Increase part time staffing levels at current station to 12 hour shifts to cover more of the peak hour demands. (2.0 for 24/7 with 12 hours Peak Demand Unit)

Days	Additional Staff	Hours	Hourly Rate	Additional Impact on the budget
365	2	3	\$21.02	\$23,016



Service Delivery Option 2B

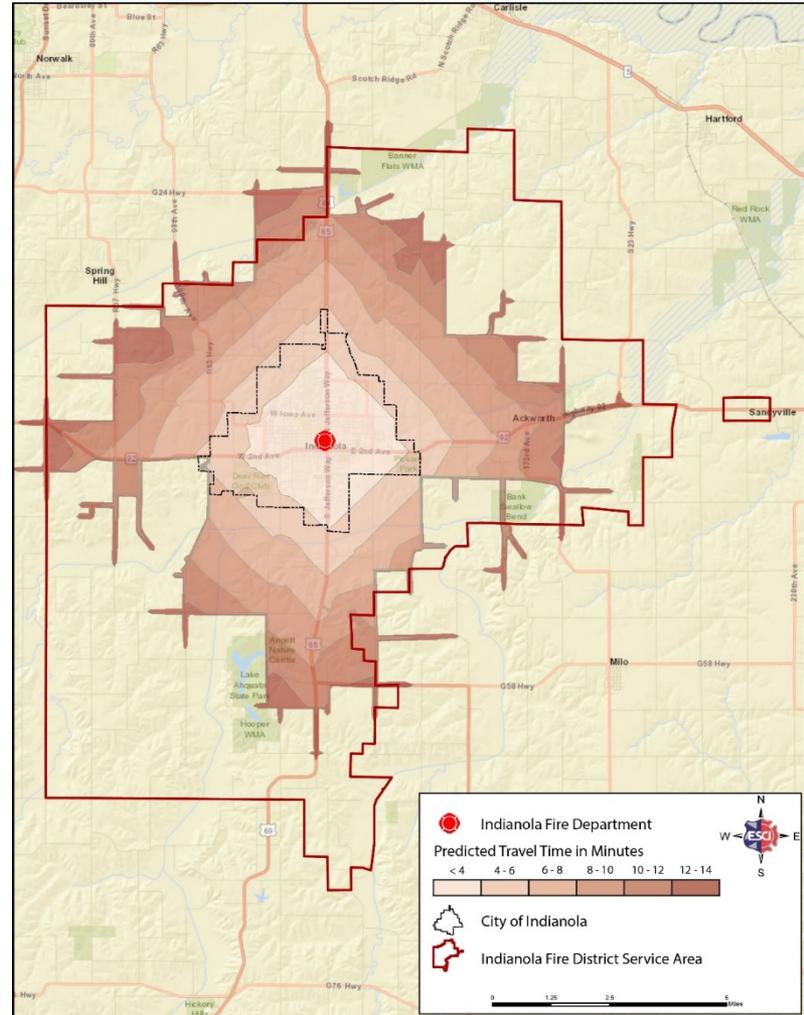
- Option 2B) Add two part-time staff for peak hour demands on a shift that is off set from the current part-time staff. (2.0 for 24/7 with 2.0 8-5 Peak Demand Unit and 2.0 12-8 Peak Demand Unit)

	Station 1		Shift	Shift Total
Chief	1	FTE	8-5	1
Captain	1	FTE	8-5	1
Engine	3	FTE	24/7	3
Rescue	2	Part-time	8-5	2
Rescue	2	Part-Time	12-8	2
				9



Resource Concentration Option 2B

- Indianola can expect to put the number of firefighters on duty inside the city in less than 4-6 minutes.
- From 12am-5 pm 9 FF if everyone is available.
- From 8am- 12 am 7 FF if everyone is available.
- From 5pm-8pm 5 FF
- 3 FF after day crews go home.
- Does not meet the NFPA 1720 standard inside the city.



Financial Impact Option 2B

- Option 2B) Add two part-time staff for peak hour demands on a shift that is off set from the current part-time staff. (2.0 for 24/7 with 2.0 8-5 Peak Demand Unit and 2.0 12-8 Peak Demand Unit)

Days	Additional Staff	Hours	Hourly Rate	Additional Impact on the budget
365	2	8	\$21.02	\$61,378



Service Delivery Option 3A

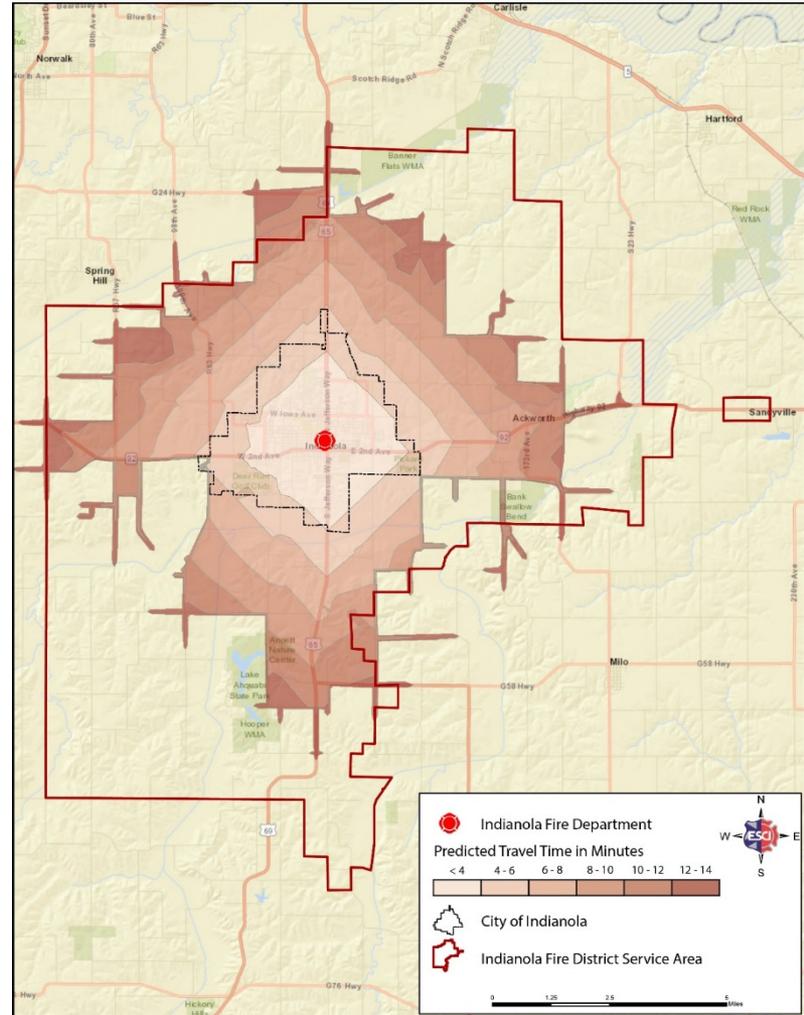
- Option 3A) Convert the current part-time staff to full time staff to provide four full time staff members. (2.0/2.0 for 24/7.)

	Station 1		Shift	Shift Total
Chief	1	FTE	8-5	1
Captain	1	FTE	8-5	1
Engine	2	FTE	24/7	2
Rescue	2	FTE	24/7	2
				6



Resource Concentration Option 3A

- Indianola can expect to put the number of firefighters on duty inside the city in less than 4-6 minutes.
- From 8 am-5 pm 6 FF if everyone is available.
- 4 FF after day crews go home.
- Does not meet the NFPA 1720 standard inside the city.



Financial Impact Option 3A

- Option 3A) Convert the current part-time staff to full time staff to provide four full time staff members. (2.0/2.0 for 24/7.)



Financial Impact Option 3A

FYE 6-19			
Additional FTEs	Salary	Benefits	Total
Fire Dept	\$ 26,049.00	\$ 4,764.00	\$ 30,813.00
Ambulance Dept	\$ 151,836.00	\$ 60,930.00	\$ 212,766.00
Total for 3 FTEs	\$ 177,885.00	\$ 65,694.00	\$ 243,579.00
Reduction in POC Hours	7886		7886
Fire Dept	\$ (24,697.00)	\$ -	\$ (24,697.00)
Ambulance Dept	\$ (139,948.00)	\$ -	\$ (139,948.00)
Total	\$ (164,645.00)	\$ -	\$ (164,645.00)
Net Increase to budget	\$ 13,240.00	\$ 65,694.00	\$ 78,934.00



Service Delivery Option 3B

- Option 3B) Promote one FTE per shift to the role of company officer to ensure proper span of control.



Financial Impact Option 3B

- Option 3B) Promote one FTE per shift to the role of company officer to ensure proper span of control.

Additional FTEs	Salary	Benefits	Total
3 New company officers	\$300,312	\$66,954	\$367,266
Total increase in funds needed for new FTE's	\$300,312	\$66,954	\$367,266



Service Delivery Option 4

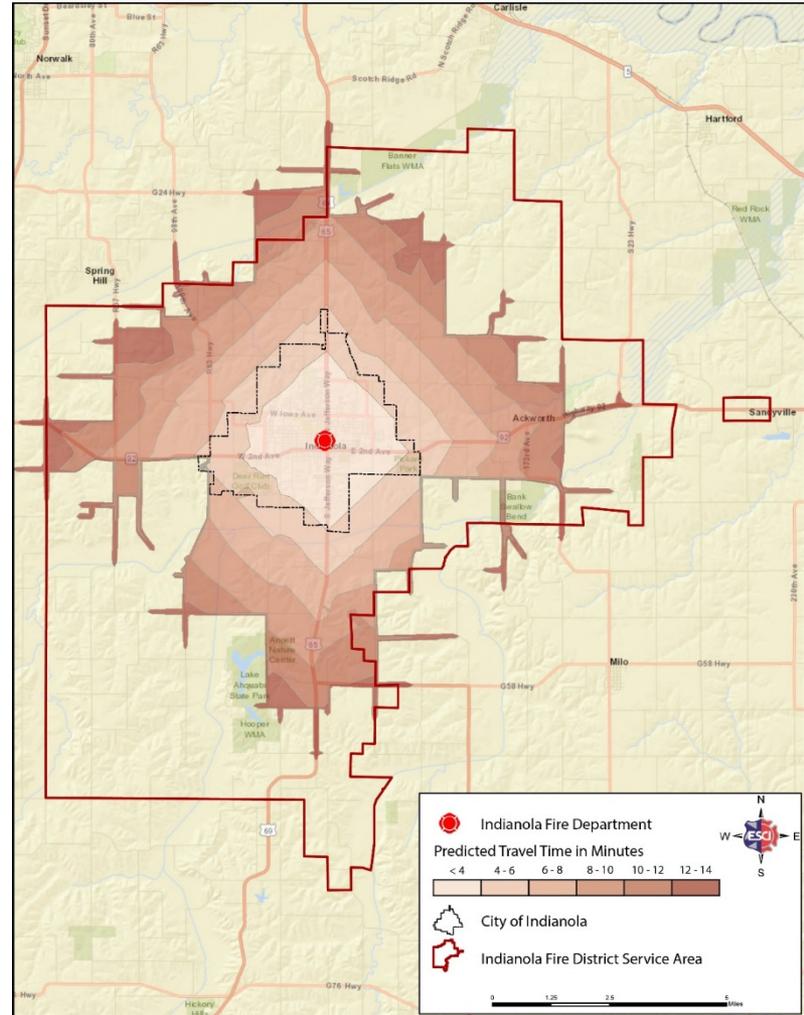
- Option 4) After the conversion of the current part-time staff to full time staff, add two additional part-time staff for peak hour demands. (2.0/2.0 for 24/7 with Peak Demand Unit.)

	Station 1		Shift	Shift Total
Chief	1	FTE	8-5	1
Captain	1	FTE	8-5	1
Engine	2	FTE	24/7	2
Rescue	2	FTE	24/7	2
Rescue	2	Part-time	8-5	2
				8



Resource Concentration Option 4

- Indianola can expect to put the number of firefighters on duty inside the city in less than 4-6 minutes.
- From 8 am-5 pm 8 FF if everyone is available.
- 4 FF after day crews go home.
- Does not meet the NFPA 1720 standard inside the city.



Financial Impact Option 4

- Option 4) After the conversion of the current part-time staff to full time staff, add two additional part-time staff for peak hour demands. (2.0/2.0 for 24/7 with Peak Demand Unit.)



Financial Impact Option 4

FYE 6-19			
Additional FTEs	Salary	Benefits	Total
Fire Dept	\$ 26,826.00	\$ 4,764.00	\$ 31,590.00
Ambulance Dept	\$ 156,390.00	\$ 60,930.00	\$ 217,320.00
Total 3 FTE's	\$ 183,216.00	\$ 65,694.00	\$ 248,910.00
Reduction in POC Hours	3006	3006	
Fire Dept	\$ (8,251.47)	\$ -	\$ (8,251.47)
Ambulance Dept	\$ (46,758.33)	\$ -	\$ (46,758.33)
Total	\$ (55,009.80)	\$ -	\$ (55,009.80)
Net Increase to budget	\$ 128,206.20	\$ 65,694.00	\$ 193,900.20



Questions?



Thank You

Robert W. Graff Jr. / Project Manager

