

Minutes of the Independence City Commission's June 13, 2019 Meeting

The Independence City Commission met for a regular meeting on June 13, 2019 at 5:30 P.M. in the Veterans Room at the Memorial Hall. Mayor Louis Ysusi, Commissioner Leonhard Caflisch, and Commissioner Gary Hogsett were present. Others present included:

City Staff

Craig Whitehead, City Manager
Kelly Passauer, Assistant City Manager/Zoning Administrator
David Schwenker, City Clerk/City Treasurer
David Cowan, Director of Safety/ADA Coordinator
Shawn Wallis, Fire/EMS Chief
Terry Lybarger, Director of Utilities
Mike Passauer, Public Works Director
Brian McHugh, Memorial Hall Supervisor
April Nutt, Director of Housing Authority
Jerry Harrison, Police Chief
Lacey Lies, Director of Finance
Cody Shamblin, Airport Supervisor
Barb Beurskens, Park and Zoo Director
Barry Beurskens

Visitors

Taina Copeland
Larry McHugh
Jerry Bright
John Heckman
Steve Morrison
Ned Stichman
Anthony Royse
Thomas Black
Margaret Black
Dean Hayse
Dale Wilkens
Dorcas Sutton
Lisa Richard

I. REGULAR SESSION

A. Call to Order

Mayor Ysusi called the meeting to order at 5:30 P.M.

B. Pledge of Allegiance to the United States of America

C. Adoption of Agenda

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Motion:

On the motion of Mayor Ysusi, seconded by Commissioner Caflisch the Commission adopted the agenda with the modification that item "F" be removed from the consent agenda and moved to items for Commission action.

Aye: Ysusi, Caflisch, Hogsett

Nay: None

II. PRESENTATION

- A. Presentation by Montgomery County Emergency Management Director Rick Whitson.

Montgomery County Emergency Management Director Rick Whitson gave a report on the recent flood event and the response of City employees during the event.

Mayor Ysusi thanked him for the report and City staff for their hard work.

Commissioner Hogsett asked if there is anything the City could do to better communicate with the general public.

Director Whitson replied that he was not aware of anything the City could do better.

- B. Presentation by TranSystems of the Whiskey Creek Hydrology Study.

Aaron Moore gave a presentation on the Whiskey Creek Hydrology Study which is attached to the minutes.

III. COMMON CONSENT AGENDA

(*Consent* is that class of Commission action that requires no further discussion or which is routine in nature. All items on the Consent Agenda are adopted by a single motion unless removed from the Consent Agenda.)

- A. Appropriations

1. A-1840
2. D-1905
3. P-1811

- B. Consider approving the minutes of the April 17 and 25, 2019 City Commission Meetings.

- C. Consider approving the following Cereal Malt Beverage Licenses:

1. Indy Brew Works – 223 W. Main Street
2. Martin Metzger – 123 N. 8th Street (1-day permit for June 20, 2019)

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- D. Consider approving the 12th Annual Blake Bertie Triathlon on August 10th, 2019 at Riverside Park.
- E. Consider authorizing the release of lien of nuisance taxes for 1033 N. 11th Street.
- F. Consider revising the Memorial Hall and Civic Center Rental Rates. Move to items for Commission action.

This item was removed from the consent agenda and moved to items for Commission action

- G. Consider authorizing Mid America Chapter # 980 of the Experimental Aircraft Association to hold a fly-in at the Independence Municipal Airport on Saturday, September 14, 2019.
- H. Consider authorizing submittal of the 2019 Tenant Based Rental Assistance Grant prepared by the Independence Housing Authority.

Motion:

On the motion of Mayor Ysusi, seconded by Commissioner Hogsett the Commission adopted the consent agenda with the exception of item "F" which was moved to items for Commission action.

Aye: Ysusi, Caflisch, Hogsett

Nay: None

IV. ITEMS FOR COMMISSION ACTION

- A. Consider a request from Morrison Builders Inc. to waive the meter set fees for the building at 223 W. Main Street.

Steve Morrison appeared and thanked the Commission for their service and presented a timeline of the construction process at 223 W. Main Street.

Mayor Ysusi asked about the costs incurred for changes from the original design.

Mr. Morrison replied \$14,500.

Mayor Ysusi noted that there is a City Ordinance for connection fees for setting new meters.

Mr. Morrison stated he didn't know about these fees during the design and permit phase and asked the Commissioners to waive these fees.

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All the Commissioners agreed that better communication was needed between City staff and future developers.

Mayor Ysusi asked for an explanation on the additional \$3,000 charge.

Director Lybarger replied that is the system development fee charge on a 5/8 ¾ meter set is \$500 per meter set in addition to the set cost.

City Manager Whitehead apologized for the miscommunication.

Commissioner Hogsett stated the need to do a much better job of working with contractors and developers.

Mayor Ysusi indicated he would be willing to waive the system development fee.

Commissioner Hogsett stated he would be willing to waive a part of the fee.

Commissioner Caflisch agreed with waiving the fee.

Motion:

On the motion of Mayor Ysusi, seconded by Commissioner Hogsett the Commission moved to waive the system development fee in the amount of \$3,000 for the building at 223 West Main Street.

Aye: Ysusi, Caflisch, Hogsett

Nay: None

- B. Consider approving an agreement with TranSystems for engineering services for the 2019 mill and overlay ADA sidewalks and ramps.

Commissioner Caflisch stated that he would like to scale back the improvements offered in the contract and evaluate other areas of the City that are a more pressing need.

Item was tabled.

- C. Consider approving Change Order No. 2 in the amount of \$10,410 regarding upgrading a control panel at the water treatment plant.

Director Lybarger told the Commission that this item was missed in the original scope of work.

Commissioner Caflisch asked if PEC included a letter of explanation and

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recommendation.

Director Lybarger said they only sent the change order and their recommendation is on the change order.

Motion:

On the motion of Mayor Ysusi, seconded by Commissioner Caflisch the Commission moved to approve Change Order No. 2 to the WTP Electrical Improvements Contract with Kelley Electric in the amount of \$10,410.00

Aye: Ysusi, Caflisch, Hogsett

Nay: None

- D. Consider text amendments to Appendix B-Zoning of the City Code including Appendix A. "Listing of Permitted and Conditional Uses" regarding "Communication Towers".

Lisa Richard requested to speak on this item.

Mrs. Richard believes that this a general change to the code and is not a specific tower or application and since it is a general change to the code the code has special provisions about how that is done and, in her view, those were not followed in this instance. She then read from the staff report the following:

"1604.1. Recommendations: Upon the conclusion of the public hearing the planning commission shall prepare and adopt its recommendations and shall submit the same, together with a record of the hearing thereon, to the governing body. Said recommendation may be for approval, disapproval or approval in part and reasons for the recommendations shall be included as appropriate.

1604.2. Amendments to text: When a proposed amendment would result in a change in the text of these regulations but would not result in a change of zoning classification of any specific property, the recommendation of the planning commission shall contain a statement as to the nature and effect of such proposed amendment and determinations as to the following items:

a. Whether such change is consistent with the intent and purpose of these regulations; b. The areas which are most likely to be directly affected by such change and in what way they will be affected; and c. Whether the proposed amendment is made necessary because of changed or changing social values, new planning concepts or other social economic conditions in the areas and zoning districts affected. "

Mrs. Richard believes that the Commissioners were not provided a record of the

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Planning Commission meeting or a report from the Planning Commission specifying how they handled the three issues that they were supposed to address. She asked the Commissioners to send it back to the Planning Commission so they can address these issues.

Mayor Ysusi asked if the Westar facility was properly zoned.

Assistant City Manager Passauer explained that it's possible that the original intent for zoning it C-2 and not industrial is because across the street is a residential neighborhood.

Commissioner Caflisch noted that since the City Code has these provisions in it they would need to send this item back to the Planning Commission to get the reports that are needed.

Item was tabled and returned to the Planning and Zoning Commission.

- E. Consider awarding electrical work to repair the Wald lift station.

Director Lybarger reviewed the three quotes he acquired for the work on the Wald Lift Station.

Motion:

On the motion of Mayor Ysusi, seconded by Commissioner Hogsett the Commission moved to approve the quote from Greer's Electric in the amount of \$ 51,863.22 for electrical work to repair the Wald Lift Station.

Aye: Ysusi, Caflisch, Hogsett

Nay: None

- F. Consider a request from VFW Post 1186 to operate a golf cart on Myrtle, 6th, and Locust Streets on June 15, 2019 in support of the Veterans' event the post is hosting at the Civic Center and the VFW Post 1186 located at 113 E Myrtle Street.

Commissioner Hogsett asked Chief Harrison if he had any concerns.

Chief Harrison had none.

Motion:

On the motion of Mayor Ysusi, seconded by Commissioner Caflisch the Commission moved to authorize VFW Post 1186 to operate a golf cart on Myrtle, 6th, and Locust Streets on June 15, 2019 in support of the Veterans' event the post is hosting at the Civic Center and the VFW Post 1186 located at 113 E Myrtle Street in Independence.

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Aye: Ysusi, Caflisch, Hogsett

Nay: None

- G. Consider revising the Memorial Hall and Civic Center Rental Rates. Move to items for Commission action.

This item was removed from the consent agenda and moved to items for Commission action

Commissioner Caflisch questioned the five percent rate fee of gross ticket sales for use of the auditorium.

Assistant City Manager Passauer replied that the rate was originally ten percent and it was lowered in January to five percent. She added that there was an additional rate for use of the lower level of the auditorium only that was not addressed in the January meeting and that this will add the five percent rate charge for anyone who sells tickets for an event.

Motion:

On the motion of Mayor Ysusi, seconded by Commissioner Hogsett the Commission moved to authorize modifications to the Memorial Hall Policy and Rental Rates as recommended by staff.

Aye: Ysusi, Caflisch, Hogsett

Nay: None

V. DISCUSSION

- A. Discussion regarding placing on the 2019 November Ballot the question of increasing the number of City Commissioners from three to five, and whether to be elected at-large or by districts.

Ned Stichman addressed the Commission. Mr. Stichman reported that he had attended the worksession when this item was previously discussed. Mr. Stichman was concerned about getting enough candidates to run and felt there were other pressing needs of the City that needed to be addressed.

City Manager Whitehead went over a PowerPoint presentation that is attached.

Commissioner Hogsett asked if increasing the number of Commissioners would be a significant increase in cost.

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City Manager Whitehead responded by saying the Commissioners don't get paid and the increase in cost would be for additional attendees at conferences.

Commissioner Hogsett said he would like to have this item put on the ballot in the fall.

Commissioner Caflisch said he has not received much response on this item and feels there are other pressing needs that need to be addressed.

Mayor Ysusi also said he has not received much interest from the public on this matter.

City Manager Whitehead pointed out that it was included in the strategic plan and Commissioner Hogsett had pointed out previously that it would be nice to talk to another Commissioner outside of meetings.

Mayor Ysusi understood that and that is why the Commissioners decided to add a worksession each month to bounce ideas off each other without making a decision.

VI. REPORTS

A. City Board Minutes

1. April 17, 2019 Library Board of Trustees Minutes
2. May 7, 2019 Planning Commission/Board of Zoning Appeals Minutes
3. May 15, 2019 Recreation Commission Minutes

VII. CITY MANAGER'S COMMENTS

None

VIII. COMMISSIONERS' COMMENTS

Commissioner Caflisch asked if there was a start date on construction at the 1916 City Hall building.

Assistant City Manager Passauer said the notice to proceed was dated June 11, 2019.

Commissioner Caflisch asked about the next phase of construction and if Treanor had set up a meeting for that yet.

City Manager Whitehead noted that they are coming on the 25th of June to meet with staff.

Commissioner Caflisch wants to make sure that Treanor meets with the Commissioners before they get too far into the design phase of the project.

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Commissioner Caflisch also questioned whether the brewery contractor would put the sidewalk back to its original condition.

Director Cowan reported that they would.

Commissioner Caflisch asked who does the plan reviews.

City Manager Whitehead said that Inspector Cushing reviews the plans and for more complicated ones the City sends it out to other architects or engineers.

Commissioner Caflisch asked who reviewed the plans for the brewery.

Director Cowan said that Inspector Cushing did the review.

Commissioner Caflisch asked why we are using outside help.

Director Cowan replied that Inspector Cushing doesn't know everything, and the City is working on getting him more training.

Commissioner Caflisch asked if staff had received any responses for an ADA consultant.

City Manager Whitehead said they had gotten nine responses and had narrowed the field down to four.

Mayor Ysusi thanked City staff for the PSA on grass discharges on Facebook and he wanted to make sure that the City is sending out mailings to mowing contractors and putting something in the Reporter to educate the public on this matter.

Commissioner Ysusi also stated that he was getting conflicting reports on brush pick up.

Director Passauer replied that they are still picking up brush but are three people short in the street department and are running a little behind.

IX. PUBLIC CONCERNS

X. ADJOURNMENT

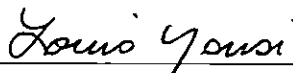
Motion:

Mayor Ysusi moved to adjourn. Commissioner Hogsett seconded.

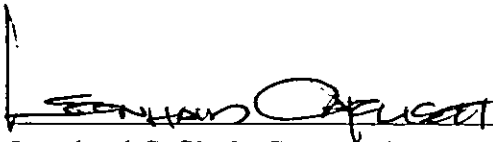
Aye: Ysusi, Caflisch, Hogsett

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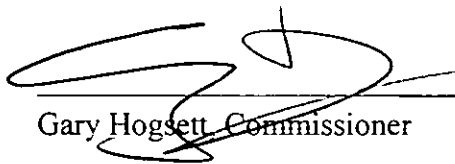
Nay: None



Louis Ysusi, Mayor

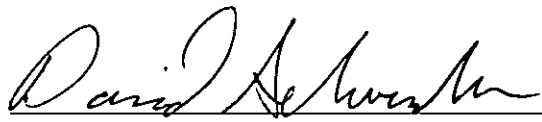


Leonhard Caflisch, Commissioner



Gary Hogsett, Commissioner

Attest:



City Clerk/Treasurer

Whiskey Creek

Hydrologic and Hydraulic Analysis Conceptual Flooding Mitigation Options and Cost Estimate

06/12/2019

Prepared for:

The City of Independence, KS
811 W Laurel St, Independence, KS 67301

Prepared by:



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INTRODUCTION

This report details the hydrologic and hydraulic analysis associated with evaluating flooding occurring along Whiskey Creek throughout the City of Independence, KS. Whiskey Creek is generally a natural channel, often flanked by residential property, and is included in the most recent Flood Insurance Study performed for the City of Independence by FEMA. The creek is mapped as a Zone AE special flood hazard area with published base flood elevations and a designated floodway. Currently, many areas adjacent to Whiskey Creek are experiencing flooding at or below a 10-year rainfall event. The 100-year FEMA floodplain is shown on the Flood Insurance Rate Map (FIRM) provided in Appendix A.

Recent and more frequent flood events along Whiskey Creek have damaged properties within the City of Independence causing the City to explore ways to mitigate or improve the flooding associated with Whiskey Creek. There has been significant development since the initial flood study was completed in 1977. The recent FEMA re-mapping simply applied the previous hydraulic analysis to new topographic information, and the magnitude of flooding was assumed to remain unchanged. The City of Independence wanted an updated hydraulic analysis to reflect changes in development along Whiskey Creek. Compounding this, in August 2018 there was a flash flooding event during which Independence received approximately 8.37" of rain. This storm event damaged 22 houses in the floodplain and increased the urgency to have an updated hydraulic analysis of Whiskey Creek as well as a short-term and long-term development plan to address flooding issues for affected residents.

DATA COLLECTION AND PREVIOUS STUDIES

A site visit was performed by TranSystems personnel on March 6, 2019 to document existing channel conditions. Project survey was obtained on March 28, 2019. There have been multiple hydrologic and hydraulic studies performed for Independence, including a FEMA Flood Insurance Study (FIS) and a US Army Corps of Engineers (USACE) project report and environmental impact statement. The USACE report provided options for flooding mitigation, including regrading 1.5 miles of Whiskey Creek and building 12 new bridges. However, this plan only protected residents for up to a 30-year event.

The current effective FEMA model was requested; however, neither FEMA nor USACE had access to the model used to establish base flood elevations presented in the FIS, so TranSystems developed a new hydraulic model for existing conditions.

EXISTING CHANNEL CONDITIONS

The Whiskey Creek channel within Independence varies in size as it progresses south. The creek is generally in a natural state. Portions of Whiskey Creek are lined with broken concrete and rock riprap. The channel is generally trapezoidal, with an average bottom width of 4-6 feet at the upstream end near Oak St. and 10-13 feet at the downstream end near Cherry St. The side slopes range widely and are vertical at some locations, including upstream of Circle Dr. This could indicate vertical or lateral stability problems in the channel. Additionally, there are multiple utilities crossing the channel, including visible sanitary lines as shown in Figure 1, as well as an electrical pole that is now located in the center of the channel, as shown in Figure 2.



Figure 1. Exposed Sanitary Sewer Line



Figure 2. Electric Pole Located in Channel North of Circle Dr.

Whiskey Creek also has debris potential, as the channel has areas that are vegetated with dense tree cover. Debris was noted during the site visit on March 6, 2019 and is shown in Figure 3.



Figure 3. Debris Present at Railroad Bridge

The channel is flanked on both sides by residential development between Oak Street and Circle Drive. The main channel has less than a 10-year capacity and has a wide floodplain for large flooding events. Many residential homes are located within the floodplain and subject to flooding. As previously mentioned, 22 houses flooded during an August 2018 storm event.

HYDROLOGIC IMPROVEMENTS

The drainage area for Whiskey Creek at the point of the confluence with Rock Creek is approximately 2200 acres and consists of both developed and undeveloped land. According to the Kansas Department of Transportation Design Manual, an appropriate method to calculate design discharges when accounting for storage is a Flood Hydrograph Simulation Method. In order to accomplish this, the drainage basin was split into 13 subbasins, each with an individual curve number (CN) value and time of concentration. An exhibit showing these subbasins is presented in Appendix A. These values were used as input for the hydraulic model (HEC-HMS Version 4.2.1), used to develop and route flood hydrographs.

Given the proximity of residential properties that limit significant channel improvements, the first flood mitigation alternative evaluated involves reducing the amount of water flowing in the channel. TranSystems analyzed two different pond options that could potentially be constructed north (upstream) of Oak St; a wet detention pond and a sloped detention pond. Both ponds have a footprint of approximately 20 acres (Appendix B). The wet detention pond has a 0% slope that retains water and can be used for public fishing. The sloped detention pond is a dry pond that does not retain water with an approximately 0.5% slope directing water to the outlet structures. In order to determine the amount of peak discharge reduction for each pond, they were incorporated into the HEC-HMS model. Each pond considerably reduced peak discharges for Whiskey Creek. This reduction in discharges is shown in Table I. In addition to the project HEC-HMS analysis, the USACE and FEMA both previously developed discharges for their hydraulic studies. FEMA used the Regression Equation Method, and USACE used a unit hydrograph method within HEC-1 software. A comparison of all four discharges for the 100-year event is shown in Table I.

Table 1. 100-yr Discharge Comparison

Approximate Calculation Point	FIS Discharges	USACE Discharges	Proposed Wet Detention Pond	Proposed Sloped Detention Pond
Oak Street	820	1250	179	383
Railroad	1570	1850	628	799
Laurel St	2905	2650	1563	1728
Maple St	3440	3150	2025	2062
Cherry St	5020	3800	2478	2619

Discharges were adopted from the FEMA FIS for existing conditions in order to compare flood profiles and water surface elevations to FEMA regulatory elevations. The FEMA study only provides peak discharges and does not provide runoff volumes or hydrographs to allow for analysis of detention ponds. For the detention pond analysis, the project HEC-HMS model was utilized. The lag time for the pond drainage area was calibrated until the 100 year peak discharge into the pond matched the FEMA 100-year flow.

HYDRAULIC IMPROVEMENTS

Although reducing discharges provides the most benefit to reducing potential damage, there are areas that would benefit from channel improvements as well. In order to analyze hydraulic improvements, TranSystems created a hydraulic model for Whiskey Creek utilizing HEC-RAS Version 5.0.6. Hard point survey data was obtained for each of the structures within the project area. Geometry outside of the survey extents was obtained using LiDAR elevation data and site visit notes and photographs.

According to the model, there is significant flooding that occurs along Whiskey Creek, including residential areas. This is reflected in the FEMA floodplain mapping, shown in Appendix A. In order to improve flooding, TranSystems analyzed potential improvements to the channel from Oak Street South to Circle Drive, and from Sycamore Street South to N 20th Street.

Improving the channel from Oak Street to Circle Drive consisted of increasing the bottom width to approximately 6 feet and maintaining 3:1 side slopes. Improving the channel south of Sycamore Street consisted of removing the existing brick culvert and grading a trapezoidal channel with a 4 foot bottom to match the channel upstream and downstream channel geometry near this location. This option included the installation of a 10ft x 5ft reinforced concrete box culvert under both Sycamore and N 20th St, where the channel grading stops, downstream of 20th St and near the UPRR embankment. It is anticipated that rock riprap will need to be placed to prevent erosion of the railroad embankment. W Cottonwood St would be closed to allow the channel grading to go through.

In addition to channel improvements between Oak St and Circle Dr, the bridge supporting Circle Drive was evaluated to determine if increasing the size would benefit the neighborhood directly upstream. This did not appear to have a noticeable impact on flooding due to the channel governing hydraulic capacity.

ANALYSIS RESULTS

The hydraulic improvements previously described, as well as the ponds, were evaluated along Whiskey Creek at four specific crossings in Independence: Oak St., Circle Dr., Sycamore St., and N 20th St. These crossings are shown below in Tables 3-6.

Table 2. Oak Street Water Surface Elevations, Velocities, Discharge, and Level of Service

Oak Street (EI = 796.08 ft)							
Improvement	L.O.S.	10-yr			100-yr		
		WSE (ft)	Velocity (fps)	Discharge (cfs)	WSE (ft)	Velocity (fps)	Discharge (cfs)
Existing	<10	796.57	3.8	475	796.87	3.40	820
Wet Detention Pond	100	795.55	1.1	68	796.06	3.00	179
Sloped Detention Pond	10	795.88	1.6	95	796.46	3.90	383
Channel Improvements	<10	796.6	3.2	475	796.86	3.40	820
Replace Circle Drive Bridge	<10	796.57	3.8	475	796.87	3.30	820

Table 3. Circle Drive Water Surface Elevations, Velocities, and Level of Service

Circle Drive (EI = 790.27 ft)							
Improvement	L.O.S.	10-yr			100-yr		
		WSE (ft)	Velocity (fps)	Discharge (cfs)	WSE (ft)	Velocity (fps)	Discharge (cfs)
Existing	<10	791.2	0.82	475	792.17	0.67	820
Wet Detention Pond	100	787.95	2.86	68	789.44	4.75	179
Sloped Detention Pond	>10	788.37	3.33	95	790.77	0.99	383
Channel Improvements	<10	791.2	0.78	475	792.67	0.51	820
Replace Circle Drive Bridge	<10	791.2	0.8	475	792.17	0.66	820

Table 4. Sycamore Street Water Surface Elevations, Velocities, and Level of Service

Sycamore Street (Existing EI = 785.92 ft, Proposed EI = 786.34 ft)							
Improvement	L.O.S.	10-yr			100-yr		
		WSE (ft)	Velocity (fps)	Discharge (cfs)	WSE (ft)	Velocity (fps)	Discharge (cfs)
Existing	<10	787.55	6.77	850	788.41	6.27	1570
Wet Detention Pond	<10	786.43	6.97	332	787.18	6.93	628
Sloped Detention Pond	<10	786.6	7	850	787.48	6.78	1570
Channel Improvements	<10	785.41	10.11	850	786.21	5.08	1570
Channel Improv. & Wet Pond	<10	785.33	10.22	332	787.96	10.14	628
Replace Circle Drive Bridge	<10	787.55	6.77	870	788.41	6.27	1570

Table 5. N 20th Street Water Surface Elevations, Velocities, and Level of Service

N 20th Street (Existing EI = 781 ft, Proposed EI = 782 ft)							
Improvement	L.O.S.	10-yr			100-yr		
		WSE (ft)	Velocity (fps)	Discharge (cfs)	WSE (ft)	Velocity (fps)	Discharge (cfs)
Existing	<10	782.84	6.77	850	783.92	6.27	1570
Wet Detention Pond	<10	781.72	6.97	332	782.43	6.93	628
Sloped Detention Pond	<10	781.85	7	850	782.76	6.78	1570
Channel Improvements	10	781.92	5.55	850	782.2	0.61	1570
Replace Circle Drive Bridge	<10	782.84	6.77	850	783.92	6.27	1570

As shown in Tables 3-6, each of the proposed options have different effects on water surface elevation and velocity. The wet detention pond appears to have the greatest impact on the neighborhood between Oak Street and Circle Drive, where most of the flooding damage to residential properties has been reported. The sloped detention pond also reduces peak discharges in this area, but to a smaller scale.

COST ESTIMATE

TranSystems analyzed multiple scenarios to mitigate flooding along Whiskey Creek. Two detention pond configurations were analyzed, a wet detention pond with a permanent level pool and a sloped detention pond designed to drain and remain dry between storms. The conceptual layout of the ponds is presented in Appendix B. The wet detention pond has the option for excavating to depths to support fish life. For the cost estimate presented in this report, it was assumed 9 acres of the pond would be constructed to a depth of 8 feet (below normal pool), with the remaining 6 acres constructed to a depth of 4 feet. For both configurations a 3 x 3 RCB outlet paired with an 80 long emergency spillway. Normal pool elevation was set at 791.5 feet. After narrowing down areas of focus during a meeting with the City of Independence on May 8th, it was determined that the following options would be analyzed: installing a wet detention pond north of Oak Street (Option A), installing a sloped detention pond north of Oak Street (Option B), regrading the channel between Oak Street and Circle Drive (Option C), grading a channel south of Sycamore St. and installing two culverts as well as riprap revetment against the railroad embankment (Option D), and replacing the bridge at Circle Drive. The Circle Drive Bridge was found to have minimal impact, and was not included in the cost estimate. The conceptual cost estimates are shown below in Tables 7-10.

Table 6. Cost Estimate A: Wet Detention Pond

Wet Detention Pond	Quantity	Unit	Unit Cost	Cost
Excavation	716471	CY	\$ 10.00	\$ 7,164,710.00
Mobilization	1	LS	\$ 30,000.00	\$ 30,000.00
Outlet Works	1	LS	\$ 8,000.00	\$ 8,000.00
TOTAL				\$ 7,202,710.00

*Includes over-excavation below normal pool to support fish. A reduction in excavation costs, could be achieved if the pond is designed with depths less than required to support fish.

Table 7. Cost Estimate B: Sloped Detention Pond

Sloped Detention Pond	Quantity	Unit	Unit Cost	Cost
Excavation	124518	CY	\$ 10.00	\$ 1,245,180.00
Mobilization	1	LS	\$ 15,000.00	\$ 15,000.00
Outlet Works	1	LS	\$ 8,000.00	\$ 8,000.00
TOTAL				\$ 1,268,180.00

Table 8. Cost Estimate C: Oak St Channel Improvements

Oak St Channel Improvements	Quantity	Unit	Unit Cost	Cost
Excavation	1486	CY	\$ 10.00	\$ 14,860.00
Mobilization	1	LS	\$ 15,000.00	\$ 15,000.00
TOTAL				\$ 29,860.00

Table 9. Cost Estimate D: Sycamore St Channel Improvements

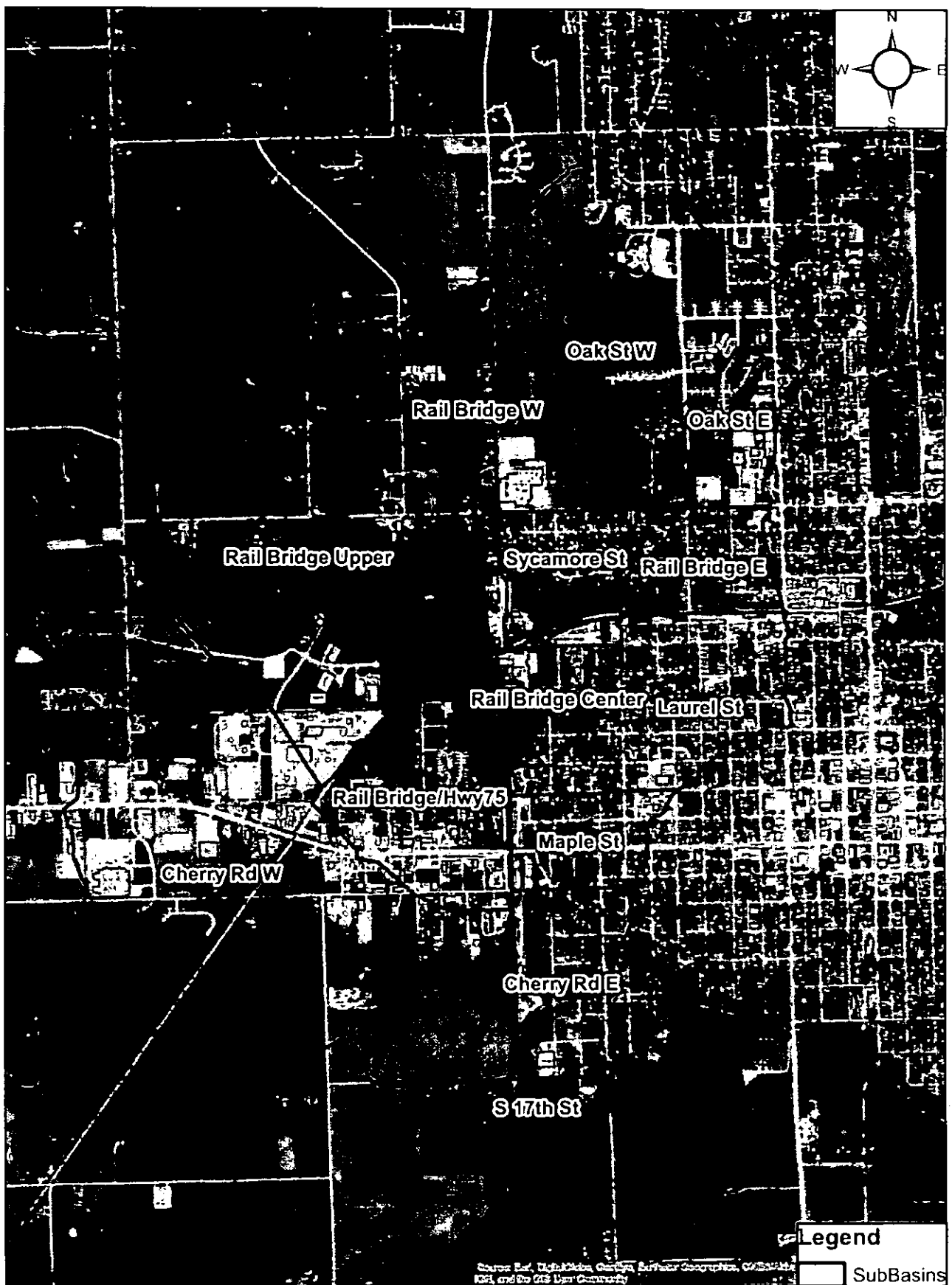
Sycamore St Channel Improvements	Quantity	Unit	Unit Cost	Cost
Excavation	11382	CY	\$ 10.00	\$ 113,820.00
Mobilization	1	LS	\$ 15,000.00	\$ 15,000.00
Culvert	1	LS	\$ 48,000.00	\$ 48,000.00
Culvert	1	LS	\$ 48,000.00	\$ 48,000.00
1/4 Ton Riprap	1336	TON	\$ 80.00	\$ 106,880.00
TOTAL				\$ 331,700.00

As shown in Tables 7-10, there is a wide variation in total cost for improvements. It should be noted that these cost estimates are preliminary, and that a more detailed cost estimate shall be provided when the City selects an option(s) they want to move forward with. It should also be noted that mobilization costs may change if any of the mitigation measures are combined.

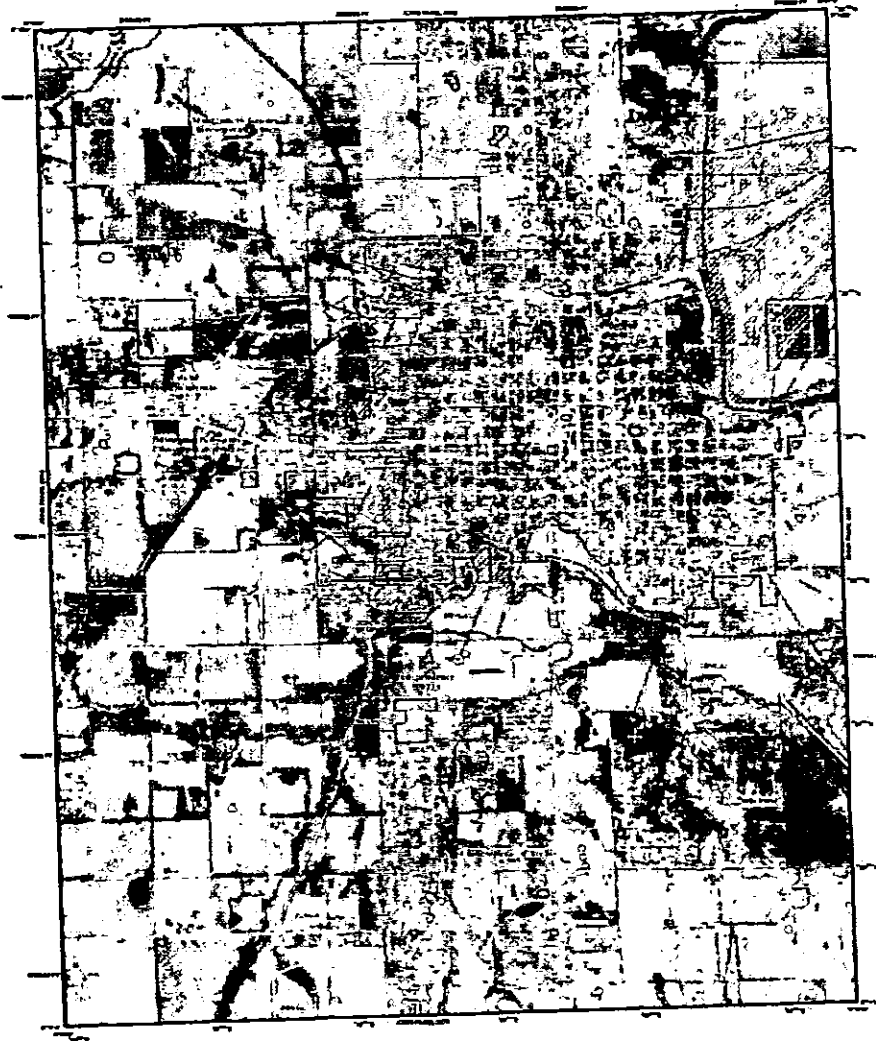
SUMMARY

TranSystems analyzed several scenarios to improve flooding along Whiskey Creek in Independence, KS. It appears that installing a wet detention pond north of Oak Street will have the highest impact on reducing flooding in the neighborhood directly downstream. Construction of the sloped pond will provide significant reductions in peak discharges, but less than the wet pond configuration. The sloped pond will require less excavation and cost compared to the wet pond. The channel improvements and Circle Drive bridge replacement only provide small localized flood mitigation and do not provide significant flood damage reduction. Whiskey Creek is a complex hydraulic system, and flood mitigation can be applied by combining flood prevention measures, such as channel grading to go with the detention pond.

APPENDIX A: DRAINAGE AREA MAP AND FEMA FIRM



Total Drainage Area and Subbasin Map

[illegible][illegible]

1. NAME OF THE COMPANY
 2. ADDRESS
 3. CITY
 4. STATE
 5. ZIP CODE
 6. PHONE NUMBER
 7. FAX NUMBER
 8. E-MAIL ADDRESS
 9. WEBSITE ADDRESS
 10. INDUSTRY
 11. TYPE OF BUSINESS
 12. DATE OF ESTABLISHMENT
 13. TYPE OF FINANCING
 14. TYPE OF INVESTMENT
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APPENDIX B: FIGURES

WET DETENTION POND (LARGE POND) EXHIBIT

WET DETENTION POND, NP EL = 791.5
OUTLET: 3x3 RCB, INVERT EL = 791.5
TOP OF POND EL = 801 FEET
SPILLWAY 80 FT LONG, EL = 799 FEET

POND CONTOURS BELOW NORMAL POOL NOT
SHOWN. EXCAVATION BELOW NORMAL POOL CAN
BE CONSTRUCTED TO SUPPORT FISH,

Legend
■ Spillway
□ Water Surface
— Proposed Contour Minor
— Proposed Contour Major
□ Outlet Culvert

SLOPED DETENTION POND EXHIBIT

DETENTION POND SLOPED TO DRAIN
OUTLET: 3x3 RCB, INVERT EL = 791.5
TOP OF POND EL = 801 FEET
SPILLWAY 80 FT LONG, EL = 799 FEET

Legend

- Spillway
- Proposed Contour Minor
- Proposed Contour Major
- Outlet Culvert



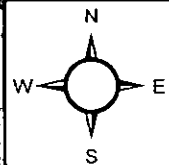
OAK STREET CHANNEL EXHIBIT

RE-GRADE TRAPEZOIDAL
CHANNEL WITH 6FT BOTTOM
WIDTH AND 3:1 SIDE SLOPES
FROM OAK ST TO CIRCLE DR

N 17th Pl

Oak St

Circle Dr



Legend

- Ditch Easement
- Breaklines
- Parcels

SYCAMORE STREET CHANNEL EXHIBIT

Sycamore St.

10' x 5' RCB

20th St

Road Closed

10' x 5' RCB

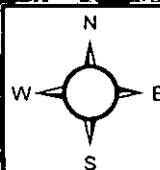
Bank Stabilization

Road Closed

Match Existing
Channel Geometry

Tran Systems

EXPERIENCE | Transportation



Legend

- Proposed Structure
- Proposed Channel
- Riprap
- City-Owned

Discussion regarding placing on the 2019 November Ballot the question of increasing the number of City Commissioners from three to five, and whether to be elected at-large or by districts.



Governing Body Data

All Cities in Kansas with populations greater than 5,000

61 Cities

Governing Body Data

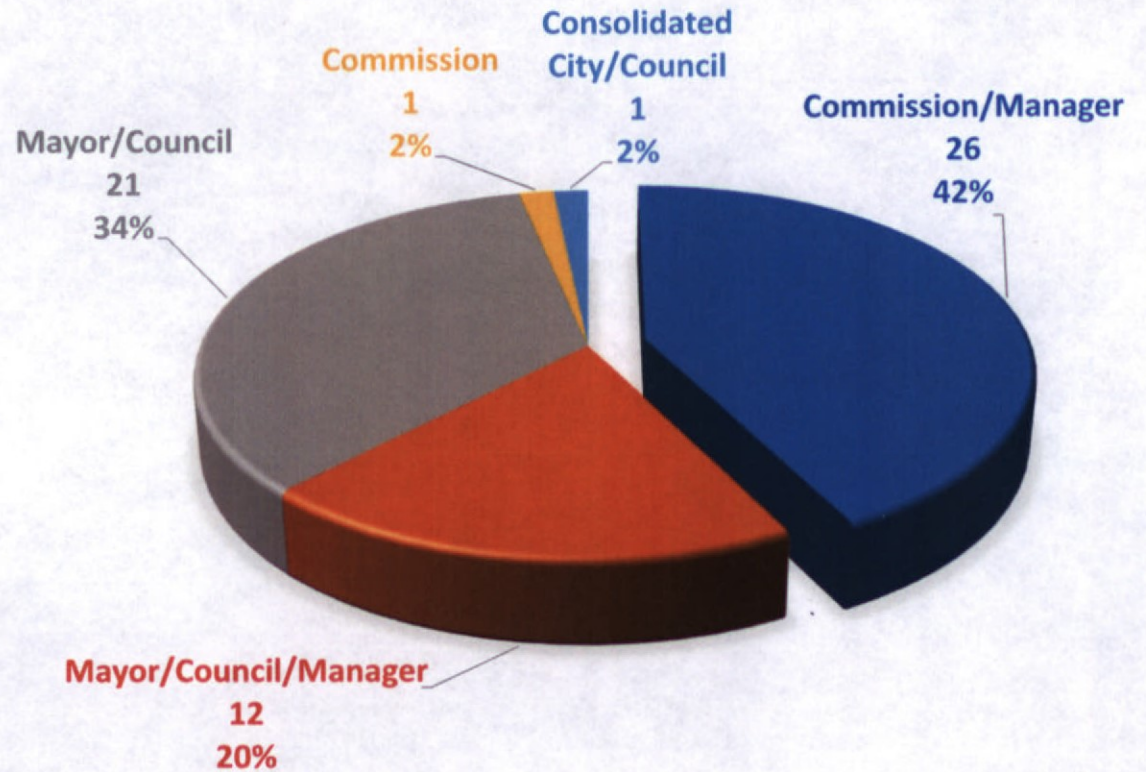
All Cities in Kansas with populations greater than 5,000

Cities and Number of Commission Members Summary

Number of Commissioners	Additional Mayor	No. of Cities	Percent
3	0	3	4.9%
4	1	1	1.6%
5	8	33	54.1%
6	4	4	6.6%
8	15	15	24.6%
9	2	2	3.3%
10	1	1	1.6%
12	2	2	3.3%
TOTAL	33	61	100.0%

Form of Government

All Cities in Kansas with
populations greater than 5,000

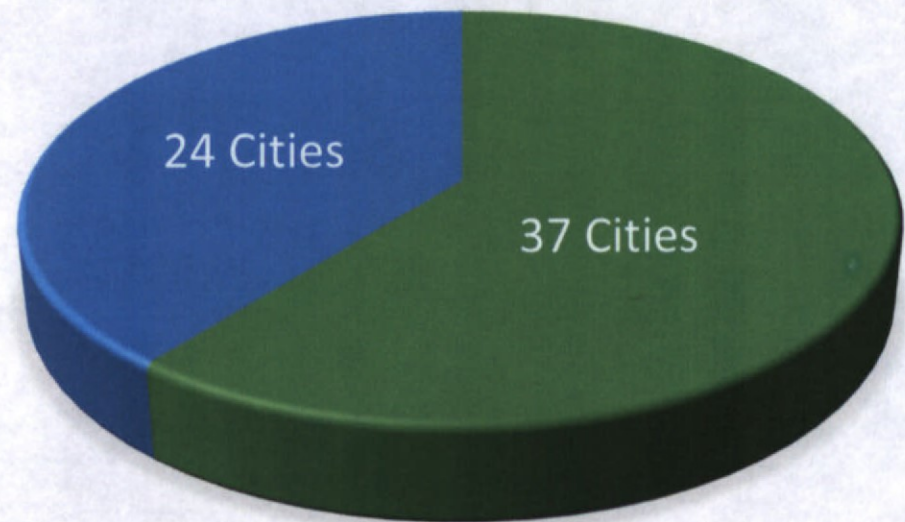


At Large vs. Districts

All Cities in Kansas with
populations greater than 5,000

Districts/Wards
39%

At Large
61%



Governing Body Data

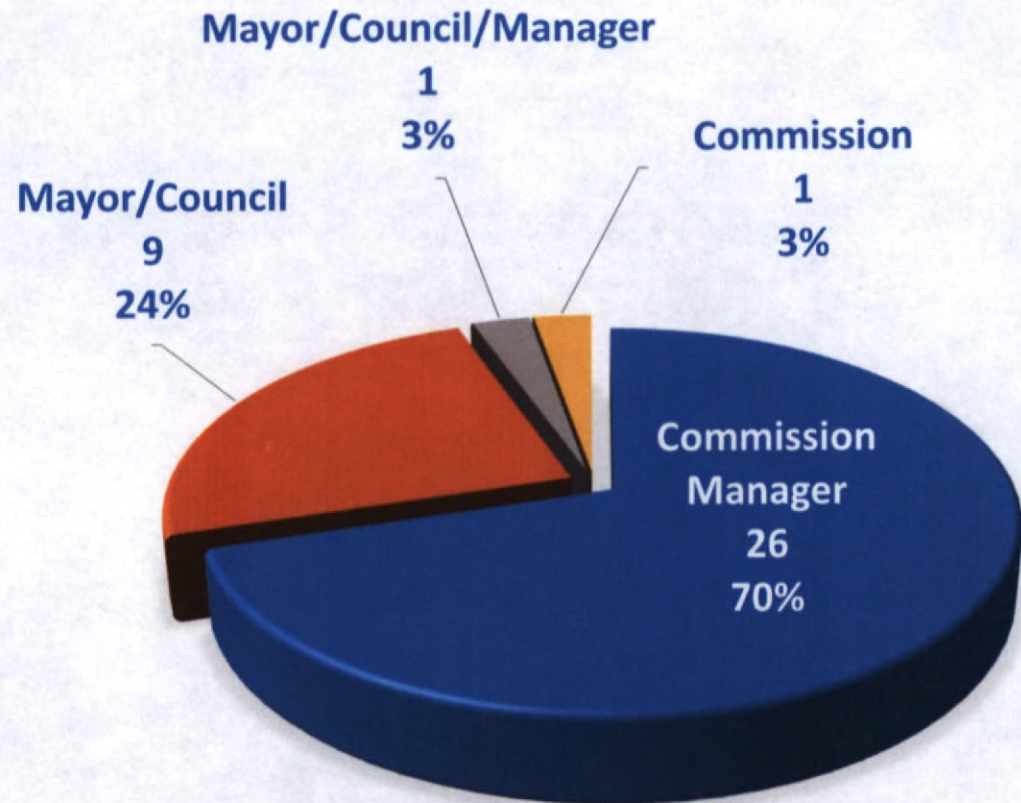
Cities in Kansas with populations greater than 5,000

Form of Government Summary of At Large or Districts

Type	Number	Percent	Elected At Large	Elected by Districts
Commission/Manager	26	42.6%	26	0
Mayor/Council/Manager	12	19.7%	1	11
Mayor/Council	21	34.4%	9	12
Commission	1	1.6%	1	0
Consolidated City/Council	1	1.6%	0	1
Total	61	100.0%	37	24

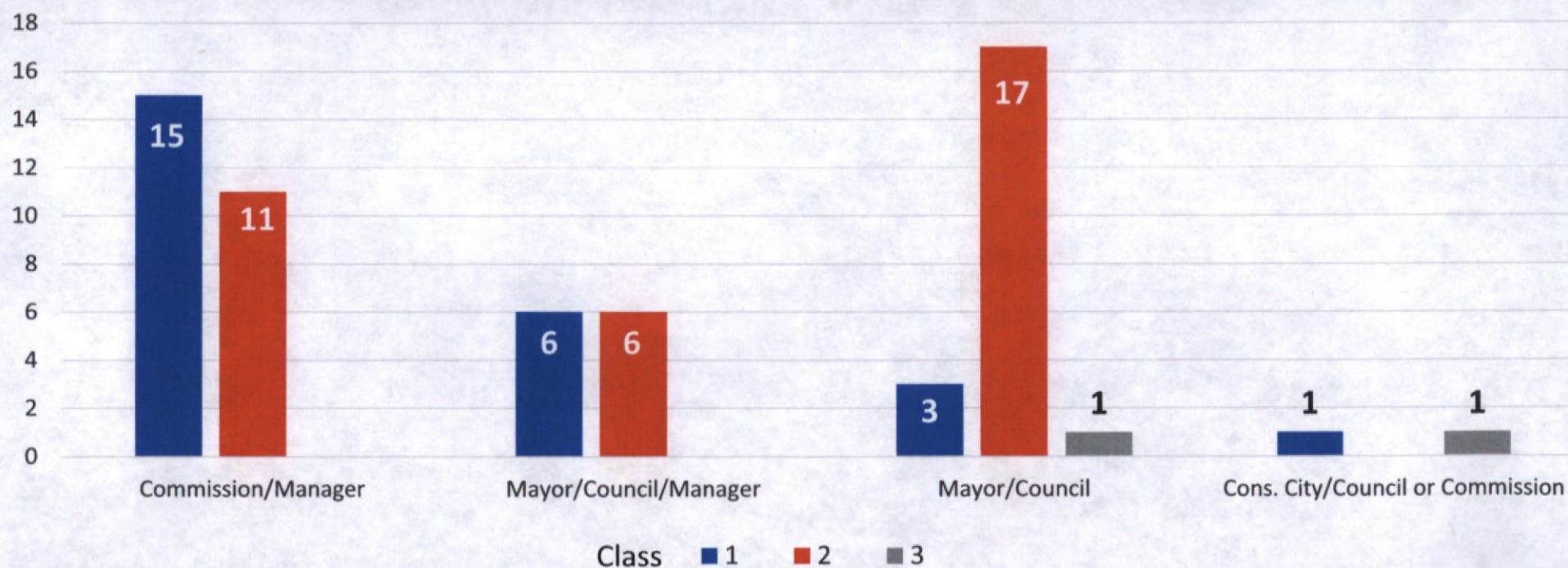
Cities with At Large Commissions (37)

Cities in Kansas with populations
greater than 5,000



Cities by Class and Form of Government All cities

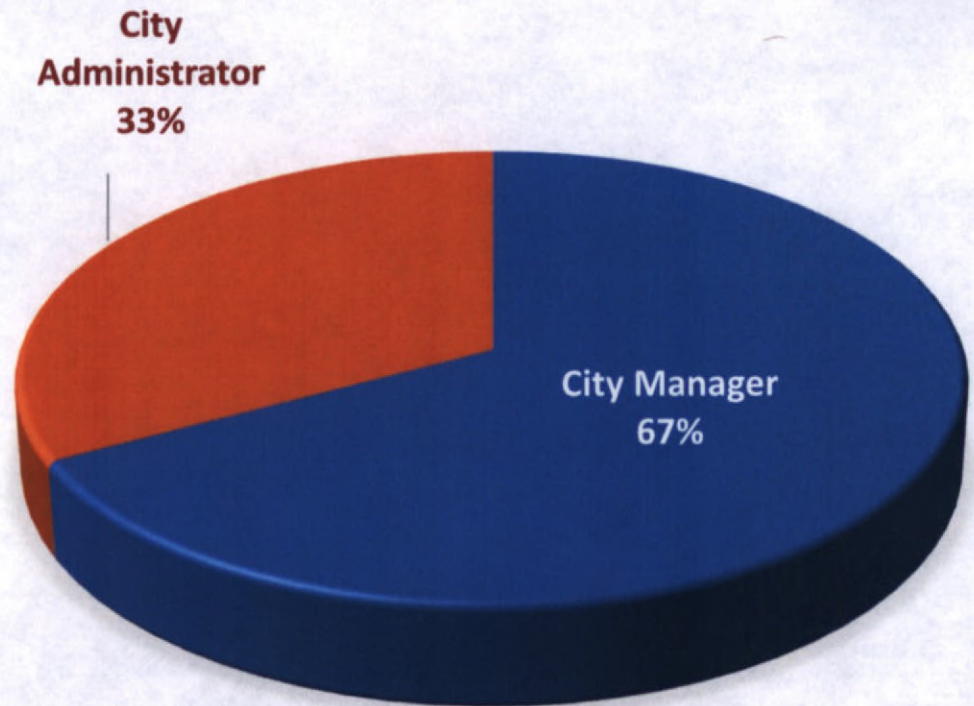
All Cities in Kansas with populations greater than 5,000



Position Title

All cities

All Cities in Kansas with
populations greater that 5,000



Commission Action to Place on Ballot

Resolution No. 2019-XXX

BE IT RESOLVED by the Governing Body of the City of Independence, Kansas:

Section 1. The Governing Body finds it advisable to increase the number of City Commissioners from three (3) to five (5) to be elected at large.

Section 2. The Governing Body hereby requests the Montgomery County Clerk to include at the next general election a ballot question to the electors residing within the corporate boundaries of the City of Independence the following questions:

Should the number of City Commissioners of the City of Independence be increased from three (3) to five (5) to be elected at large?

Adopted by the Governing Body of the City of Independence, Kansas, on the 11th day of July 2019.

The End