BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS

DIRECT TESTIMONY OF

KRISTIN L. RIGGINS

ON BEHALF OF
KANSAS CITY POWER & LIGHT COMPANY

IN THE MATTER OF THE APPLICATION OF KANSAS CITY POWER & LIGHT COMPANY FOR APPROVAL OF ITS CLEAN CHARGE NETWORK PROJECT AND ELECTRIC VEHICLE CHARGING STATION TARIFF

DOCKET NO. 16-KCPE-160-MIS

Q: Please state your name and business address.

A: My name is Kristin L. Riggins. My business address is 1200 Main, Kansas City, Missouri 64105.

Q: By whom and in what capacity are you employed?

A: I am employed by Kansas City Power & Light Company ("KCP&L" or "Company") as Sustainability Products Manager.

Q: On whose behalf are you testifying?

A: I am testifying on behalf of KCP&L.

Q: What are your responsibilities?

A: My responsibilities include implementation and management of KCP&L's programs focused on sustainability – currently those include solar and electric vehicle charging station projects.

Q: Please describe your education, experience and employment history.

A: I graduated from Northwest Missouri State University with a Bachelor's degree in Business Management and Marketing. I joined KCP&L in 2006. Prior to my role as the Sustainability Products manager, I worked as a product manager responsible for the product strategy, design, implementation, and management of demand response, energy efficiency, dynamic pricing, and Smart Grid product solutions for customers.

Q: Have you previously testified in a proceeding before the Kansas Corporation Commission ("Commission" or "KCC") or before any other utility regulatory agency?

A: No.

Q: What is the purpose of your testimony?

A: The purpose of my testimony is to describe the process employed by KCP&L to engage customers in our service territory who may wish to become host sites for electric vehicle ("EV") charging stations within the Company's Clean Charge Network ("CCN") and to discuss KCP&L's coordination with local governments and the timeline for completion of the infrastructure necessary for full implementation of the CCN project. I will also provide a status report on the CCN, and explain how the stations will be used by our mobile customers.

I. KCP&L'S PROCESSES

Q: How is KCP&L's implementation process organized?

A: KCP&L first assembled a core team to develop the process we would use to identify potential host sites, make customer contacts, undertake contract negotiations and install the charging stations. The core team included members of KCP&L's Energy Solutions

group, KCP&L's Field Operations, ChargePoint, Mark One, and Lilypad EV. ChargePoint is the manufacturer of the charging stations being used in the project. ChargePoint will also provide billing and collection services for the stations. Mark One is the electrical contractor installing the stations. Lilypad EV is responsible for the tracking and monitoring of the installation process, setting up the stations via the ChargePoint network, and leading the generation effort to recruit non-Tier One customers to be hosts.

KCP&L then reached out to involve employees from its Standards Engineering, Transmission & Distribution Asset Management, Contract Management, Supply Chain, Government Affairs, Regulatory, Information Technology, Measurement Technology (Metering), Legal and Corporate Communications departments. Also involved were strategic partners from Mid-America Regional Council ("MARC"), the Electric Power Research Institute ("EPRI") and car manufacturers, including Nissan and Ford.

Q: How did KCP&L determine how many charging stations to deploy across its service territory?

A: As Company witness Mr. Charles A. Caisley discusses in his Direct Testimony, previous analysis from ChargePoint and evaluation of our existing charging stations deployed, a network of approximately 1,000 charging stations is capable of supporting more than 12,000 EVs with little or no waiting by the users, and as many as 25,000 EVs with moderate customer wait times. The lowest projection of EV sales in KCP&L service territory according to the Annual Energy Outlook 2015 published by the U.S. Energy Information Administration is 5,500 plug-in EVs by 2025.

In a study conducted by Cornell University, *The Market for Electric Vehicles: Indirect Network Effects and Policy Design*, they found the market for plug-in EVs exhibits indirect network effects in that there is interdependence between consumer decision of EV purchase and investor decision of charging station deployment. According to the study, a 10% increase in the number of public charging stations would increase EV sales by about 8%. The study also evaluated the effectiveness of the federal income tax credit that provides up to $7,500 for new EV purchases. The study further shows that if the $1.05 billion tax incentives were used to build charging stations instead of subsidizing EV purchases, the increase in EV sales would be three times as large.[1]

KCP&L believes that installing a charging station infrastructure of approximately 1,000 Level 2 stations and 15 Level 3 DC fast charge stations will be impactful to moving the market, but yet sized reasonably from a capital investment perspective.

Q: How did KCP&L determine where to locate the Level 3 DC fast charge EV charging stations?

A: Through the partnership with Nissan, the criteria for the Level 3 DC fast charging stations included locating the stations in high-traffic retail locations.

Q: How did KCP&L determine where to locate the Level 2 EV charging stations?

A: KCP&L developed a set of focused criteria to determine potential host sites for the CCN program. The overarching goal is to remove the range anxiety barrier to purchasing EVs. Criteria included:

[1] *The Market for Electric Vehicles: Indirect Network Effects and Policy Design*, authored by Shanjun Li, Lang Tong, Jianwei Xing, and Yiyi Zhou, pubished Jun. 2015 by Cornell University, pp. 1-3.

- Target high potential site locations such as educational institutions, healthcare facilities, hospitality sites, multi-family dwellings, municipal sites, parks and recreational areas, and retail, workplace and public parking.
    - National pipeline data from ChargePoint was used as guidance to establish a benchmark distribution of charging stations by site type for KCP&L's overall service territory as shown in Table 1 below.

Table 1
Target vs. Actual Distribution of Charging Stations by Site Type

Site Type	Target % of Charging Stations	Actual % of Charging Stations in Queue as of 02/11/2016
Education	7.5%	8%
Healthcare	7.5%	8%
Hospitality	10.0%	7%
Multi-family Commercial	5.0%	2%
Municipal	5.0%	3%
Parks and Recreation	5.0%	5%
Retail	25.0%	29%
Workplace	25.0%	30%
Parking	10.0%	8%
TOTAL	100.0%	100%

- Distribute charging stations throughout the KCP&L and KCP&L Greater Missouri Operations Company ("GMO") service territories;
    - A method to distribute the infrastructure by a station-to-population ratio was developed to set targets across the top 40 communities within our service territories. Residential customer counts by city as well as daytime population data were utilized.

- In addition to the population ratio method, deploy a subset of stations to outlying areas to ensure geographical coverage across the entire service territory.
- Additional criteria were established to ensure economical parameters and cost efficiencies at each approved host site. The standard design includes three to six stations within a reasonable distance to KCP&L's distribution infrastructure. Depending on site evaluations, the number of stations may vary based on circumstances.

Q: Based on these criteria, and the number of EV charging stations to be deployed, how many sites did you identify as potential host sites?

A: Based on the criteria above, a target of approximately 315 Level 2 dual port stations across 100 host locations was set for KCP&L's Kansas service territory. Six additional locations were selected in Kansas for the dual port Level 3 DC fast chargers. A high potential recruitment list was developed for direct outreach to potential hosts. For KCP&L's Tier 1 customers, direct outreach was made by our Energy Consultants. KCP&L currently has about 250 Tier 1 customers based on revenue of aggregated accounts, critical infrastructure, or any other criteria which would require the customer to have a higher level of degree of one-on-one interaction. Lilypad EV made contact with KCP&L's non-Tier 1 accounts. An online application form was also developed for businesses interested in becoming host locations. The online application form can be found at http://www.kcpl.com/cleancharge.

Q: What is KCP&L doing to let its commercial and industrial ("C&I") customers know about the opportunity to become a host site for a CCN charging station?

A: In addition to the direct contacts noted above, KCP&L also included information on the project in our C&I customer communications as well as on our website at www.kcpl.com/cleancharge. The key messages to date included:

- The KCP&L CCN is making range anxiety disappear in the Kansas City region.
- We're ahead of "the charge" as the first utility in the country with a public facing EV charging network.
- Kansas City is an EV destination and leader.

KCP&L also spread the word through other communications tactics, such as:

- Live events (*i.e.*, launch event, ribbon cuttings) – Engaging customers at charging station locations to build awareness of the network.
- Branding (*i.e.*, charging stations, signage) – Building a cohesive look-and-feel for the network to create recall and awareness of the network.
- Earned media – Proactive and reactive print, broadcast and online media outreach in targeted locations to recruit site hosts, build awareness of the network and develop advocates.
- Social media (*i.e.*, organic posts, Facebook ads, Drive Electric Week takeover) – Proactive digital communications, contests and user-generated content to build awareness and engage EV owners in two-way communications.
- Web communications (*i.e.*, kcpl.com landing page, branded user portal) – Online, search-engine optimized (SEO) content to educate drivers and potential EV owners on the features and benefits of the network.
- Employee communications (*i.e.*, employee newsletters, PowerNet) – Educating employees on the features and benefits of the network enabling them to be community ambassadors.
- Miscellaneous owned communications vehicles including:
    - *The Wire* customer newsletter;
    - *Between the Lines* customer blog;
    - *Energy Talk* business customer newsletter (site host recruitment); and

- Customer email newsletter.

Q: Did KCP&L receive many inquiries from customers on becoming a host site?

A: Yes. While we did not specifically track how each customer contact was initiated, we had a significant number of customers contact the Company to inquire about becoming an EV CCN host site. This included nearly 85 requests via the online application form.

Q: What reasons do KCP&L's customers have for being a host site for an EV charging station?

A: Schedule KLR-1, *The Benefits of Hosting Electric Vehicle Charging Stations,* provides information identifying why different entities may have an interest in locating EV charging stations on their property. The reasons range from attracting and retaining employees, customers, tenants and residents, to corporate sustainability goals.

Q: What commitments does a host make under KCP&L's EV CCN contract?

A: The host agreement with KCP&L is a ten-year commitment. The host must dedicate six to ten mutually agreeable parking spaces reserved specifically for EVs. This allows for groups of three to five charging stations with each station having ports for two vehicles. The parking spaces should allow for public access (within existing host limitations) and have reasonable access to electrical infrastructure. The host must provide KCP&L and/or its contractor access to survey, design, construct and maintain the EV charging stations. The spaces must also include signage identifying the spaces and noting that charging is free courtesy of the host. The host must agree to pay the energy charges for the EV charging stations for up to two years after contract execution. Thereafter, the EV charging stations will fall under KCP&L's applicable tariff.

Q: Please elaborate on the process for installation of an EV charging station.

A: The process begins with direct outreach to the potential host site or an application from interested businesses in becoming a host site. Once a business expresses verbal interest after receiving an overview of the network, follow-up information is provided including the host agreement for their review. A site evaluation is scheduled with the potential host and the KCP&L survey team to evaluate the location for the charging station installation. This is done concurrently with negotiation of the agreement. Once a site evaluation is complete, the team will provide a site sketch identifying the mutually agreeable location of the charging stations, and estimates for the construction costs are produced. The costs are then evaluated by KCP&L based on budget parameters. If approved, the potential host site is notified and provided the proposed site sketch. If the costs are not approved, in most cases, alternative solutions are discussed. Such alternatives might include relocating the stations or changing the number of stations installed. If a resolution cannot be determined to fit within the criteria of the network, the site is ultimately declined and the host is informed.

Q: If a site is approved, what happens next?

A: Upon the host approval of the site sketch and a signed host agreement, a detailed construction design is created and materials are ordered through the KCP&L construction workflow system. The site is then released for the permitting process, which involves submitting a permit application with the appropriate electrical and landscaping design to meet the requirements by local jurisdiction. Upon permit receipt the site is placed on the construction schedule and the host is notified of the construction timeline in advance to ensure it meets their requirements. Once construction of the site is complete, a city

inspection is required and, after clearance is received, the meter is set, the stations are commissioned within the ChargePoint network, and the stations are placed in service. The final step of the process is to install the approved signage and complete the parking lot painting to indicate EV charging locations.

II. LOCAL GOVERNMENT SUPPORT

Q: Are cities within your service territories on board with the CCN project for installations within their boundaries?

A: Yes, from the perspective of installation of the stations at locations that are hosted by business/locations other than the city itself. Significant effort was made at the launch of the CCN project to ensure KCP&L was meeting the individual needs and requirements of every local authority. As this is a new type of structure, many of the existing codes did not address the installation of charging stations specifically. KCP&L worked with the various cities to establish the specific requirements of the installation including, but not limited to the height requirements, installation procedures on curbs versus open parking to address drainage, signage restrictions, Americans with Disabilities Act mandates, and landscaping requirements. In most cases, a standard set of plans was developed for the most common installation types and pre-approved by the city, allowing the subsequent applications to be approved in a seamless fashion when submitted.

Q: Were there any cities that declined participation?

A: Only from the standpoint of the city as a host. Two Kansas cities ultimately voted not to provide host sites due to reluctance to pay the energy costs for up to two years. Once a tariff is in place, KCP&L expects these municipalities may re-apply as host locations.

Q: What delays or obstacles have you encountered in implementing the CCN project?

A: The number one delay in the anticipated timeline for project completion is host negotiations on the contract. The average negotiation period for one contract is over 100 days. When the program launched, KCP&L focused on contacting Tier 1 customers initially with the concept that one host agreement could include multiple locations (*i.e.*, national chains, developers, large workplaces). It also made strategic sense as these customers were already located in the prime retail locations and had large workplace facilities, meeting the objective of installing stations where customers live, work, and play. KCP&L failed to anticipate that large businesses such as these have stringent and time-consuming legal processes for reviewing contracts. This resulted in much longer timelines than anticipated to finalize the contracts that were necessary before we could begin installation of the charging stations.

Another obstacle was the three to four month time period necessary to work with local governmental jurisdictions on permitting requirements. This was substantially longer than we had anticipated for obtaining the initial permits. However, it was positive in that KCP&L and the cities collaboratively worked together to establish a process that would ultimately benefit the community as well as establish Kansas and the Kansas City market as a leader in sustainability by deploying charging station infrastructure.

III. CURRENT STATUS OF THE CCN PROJECT

Q: What is the current status of KCP&L's EV CCN project?

A: KCP&L planned for the EV CCN project to be completed between January 1, 2015 and third quarter 2016. Through February 15, 2016, KCP&L has 369 stations in service throughout its service territories, plus another 156 under host contract in various stages of

the construction queue, for a total of 525 charging stations in service or close to being in service. Of the 369 charging stations in service, over half – 195 – are located in KCP&L's Kansas service territory across 65 locations. Of the additional 156 stations currently in the construction phase, 37 are in KCP&L's Kansas service territory. Plans call for approximately 315 charging stations, roughly one-third of the total CCN charging stations, to be located in the Kansas service territory. Schedule KLR-2 provides graphical information showing the status of charging stations and locations by location type, city, and service territory. To date, KCP&L is 74% complete to target in the Kansas deployment. Actual final Kansas deployment numbers will depend upon host applications and agreements.

Q: Do you still anticipate deployment of more than 1,000 EV charging stations by third quarter 2016?

A: Yes. KCP&L has actively engaged nearly 700 customers in discussions regarding location of EV charging stations at their host sites. In addition to the 525 total stations in or close to being in service mentioned above, KCP&L currently has over 500 stations in the queue at various stages of site surveys and contract negotiation. Slightly over 100 stations in this queue are located in Kansas. The process is in full swing and moving rapidly toward conclusion.

Q: What risks still exist for completing the EV CCN project on time?

A: While KCP&L has had good response to the CCN project from its commercial and industrial customers, currently, the largest risk involves timing of host applications and contract negotiations. The CCN project depends on the voluntary participation of hosts

and their commitment to pay for the electricity usage at the charging stations for up to two years or until a tariff is in place addressing customer payment of usage charges.

IV. USE OF THE CCN EV CHARGING STATIONS

Q: How does a customer sign up to use the CCN EV charging stations?

A: Drivers can sign up and establish a ChargePoint account at www.kcpl.com/cleancharge to access stations on the KCP&L CCN and over 21,000 EV charging spots nationwide on the ChargePoint network. Drivers will have access to 24/7 support, an advanced mobile app to help them find available charging stations, notifications about charging status and much more. Drivers can also save their favorite station locations, and track their energy use, gas savings, and avoided greenhouse gas emissions. A KCP&L CCN card will be sent within 7-10 business days after sign-up.

Q: How does a customer use an EV charging station?

A: Once a driver establishes a ChargePoint account, they can use their KCP&L CCN card, the ChargePoint mobile app, with a Radio Frequency Identification credit card or by calling driver support at (888) 758-4389. The 888 number is listed on each charging station and on the back of the KCP&L CCN card. How-to videos run on every charging station and additional Frequently Asked Questions are available on KCP&L's website at www.kcpl.com/cleancharge. Additionally, KCP&L has information for users of the CCN available through links on its website including a mobile app to see a map of EV charging stations and a guide on how to sign up to access the stations and even how to use the charging stations.

Q: What type of notification can a driver receive?

A: Notifications are available to make drivers aware of their EV charging status at all times. Mobile and email notifications can be set up to notify drivers when their car is fully charged, when charging is interrupted, and when charging stations become available.

Q: Does that conclude your testimony?

A: Yes, it does.

BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS

In the Matter of the Application of Kansas City Power & Light Company For Approval of Its Clean Charge Network Project and Electric Vehicle Charging Station Tariff	))))	Docket No.: 16-KCPE-160-MIS

AFFIDAVIT OF KRISTIN L. RIGGINS

STATE OF MISSOURI)
) **ss**
COUNTY OF JACKSON)

Kristin L. Riggins, being first duly sworn on her oath, states:

1. My name is Kristin L. Riggins. I work in Kansas City, Missouri, and I am employed by Kansas City Power & Light Company as Sustainability Products Manager.

2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of Kansas City Power & Light Company consisting of fourteen (14) pages, having been prepared in written form for introduction into evidence in the above-captioned docket.

3. I have knowledge of the matters set forth therein. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded, including any attachments thereto, are true and accurate to the best of my knowledge, information and belief.

Kristin L. Riggins

Kristin L. Riggins

Subscribed and sworn before me this 10th day of February, 2016.

Nicole A. Wehry

Notary Public

My commission expires: Feb. 4 2019

NICOLE A. WEHRY
Notary Public - Notary Seal
State of Missouri
Commissioned for Jackson County
My Commission Expires: February 04, 2019
Commission Number: 14391200

Be Ahead of the Charge!

THE BENEFITS OF HOSTING ELECTRIC VEHICLE CHARGING STATIONS

Kansas City is earning a reputation as an innovative place to live and work. The KCP&L Clean Charge Network is supporting that evolution as the largest network of electric vehicle (EV) infrastructure in the United States, with more than 1,000 electric vehicle charging stations. The KCP&L Clean Charge Network offers considerable potential for you and your customers. Will you be ahead of the charge by hosting an EV charging station?

THE KCP&L CLEAN CHARGE NETWORK IS GOOD FOR YOUR CUSTOMERS.

- EVs cost thousands of dollars less with fuel compared to gas vehicles.
- With more than 1,000 stations across the region, there will be a charging station convenient to where your customers live and work.
- EV owners can rely on one consistent communications and payment platform.

THE KCP&L CLEAN CHARGE NETWORK IS GOOD FOR YOUR BUSINESS.

- Annual growth of EVs is more than 100% nationwide. A site with charging stations is increasingly attractive.
- Offering EV charging stations helps you attract and retain customers.

*For **Retail and Hospitality** hosts, charging stations appeal to new customers who tend to stay longer, return more frequently and spend more money at your business.*

*Charging stations at **Workplaces** can save employees money on fuel, help achieve company sustainability goals and raise your reputation as a progressive place to work.*

*For **Commercial Properties**, charging stations help attract new tenants, increase your property value and reach sustainability goals.*

***Public Parking** hosts will earn the loyalty of the growing EV customer base.*

*For **Multifamily Homes**, EV charging stations attract new residents, help retain tenants and improve your property image.*

KCP&L cleancharge network SM

THE KCP&L CLEAN CHARGE NETWORK IS GOOD FOR THE KANSAS CITY AREA.

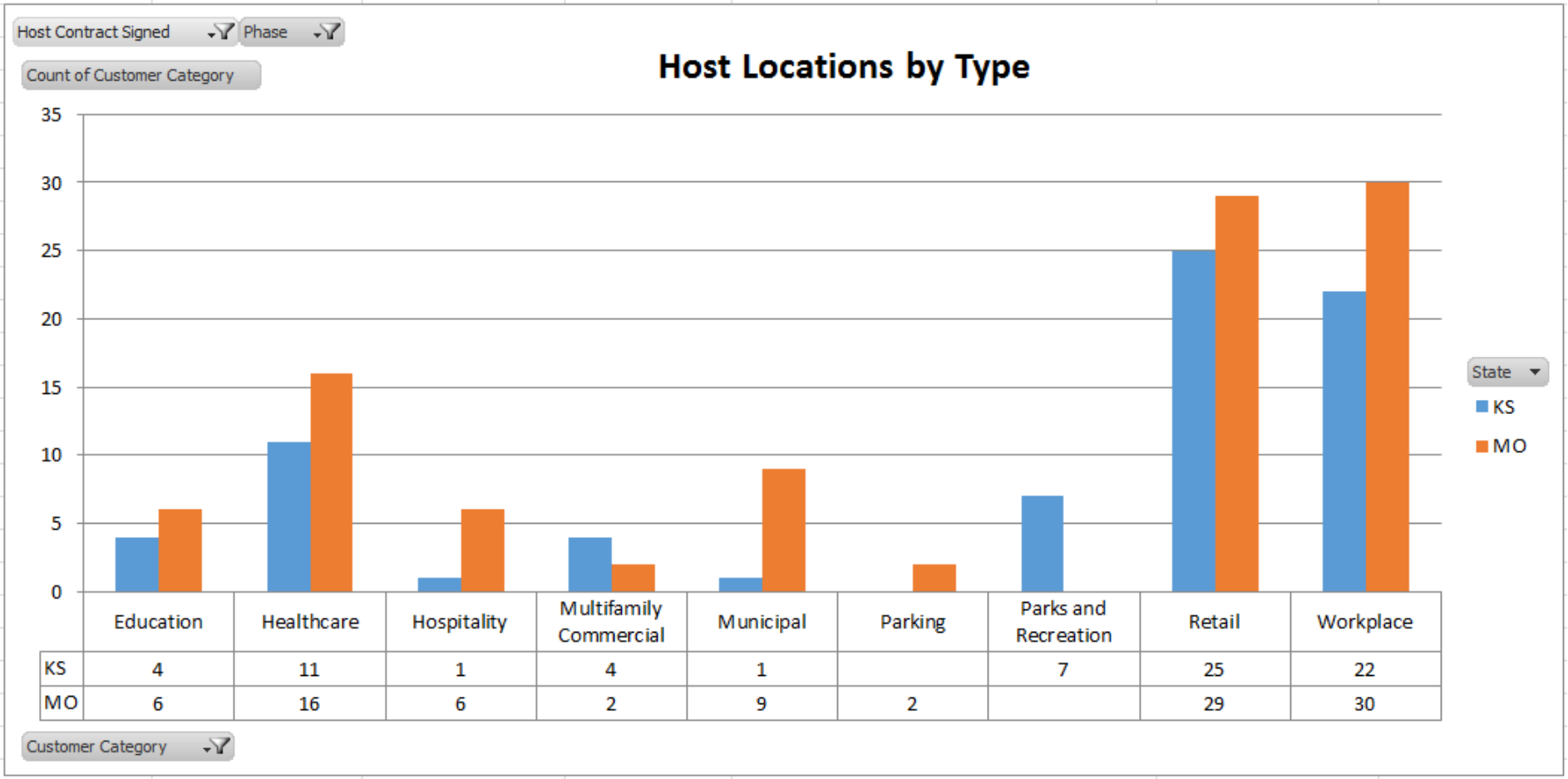
- This project will reduce carbon emissions and help attain EPA regional ozone standards.
- By eliminating range anxiety and encouraging more people to purchase electric vehicles, it will support the region's economic development.
- It will add to Kansas City's reputation as a sustainable city, helping to attract companies and talent.

What KCP&L Customers Are Saying

- The majority want more charging stations in their area.
- 37% will drive out of their way to shop or visit a location with a charging station.
- One-third would consider buying an electric vehicle if they had more charging stations in their area.
- Shopping malls (56%), businesses (55%) and restaurants (47%) are popular requests for charging station hosts.

standard charger

fast charger



	Education	Healthcare	Hospitality	Multifamily Commercial	Municipal	Parking	Parks and Recreation	Retail	Workplace
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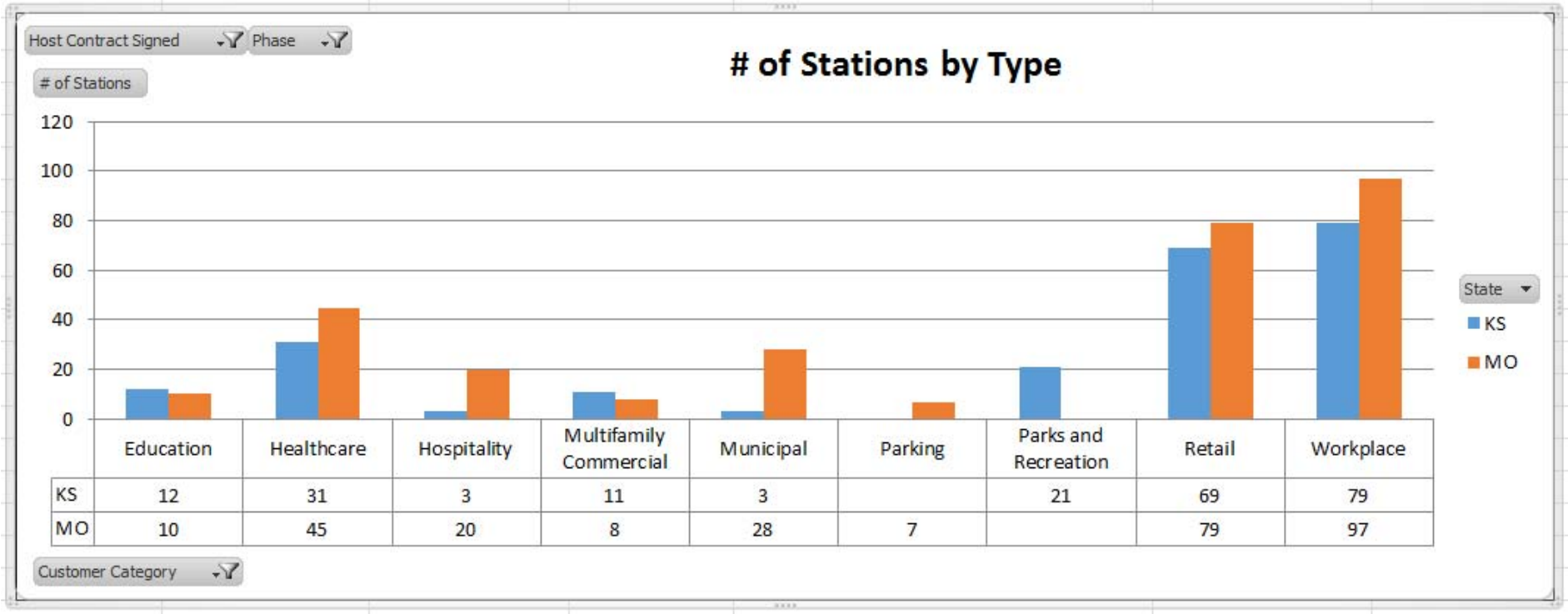
MO	6	16	6	2	9	2		29	30



	Education	Healthcare	Hospitality	Multifamily Commercial	Municipal	Parking	Parks and Recreation	Retail	Workplace
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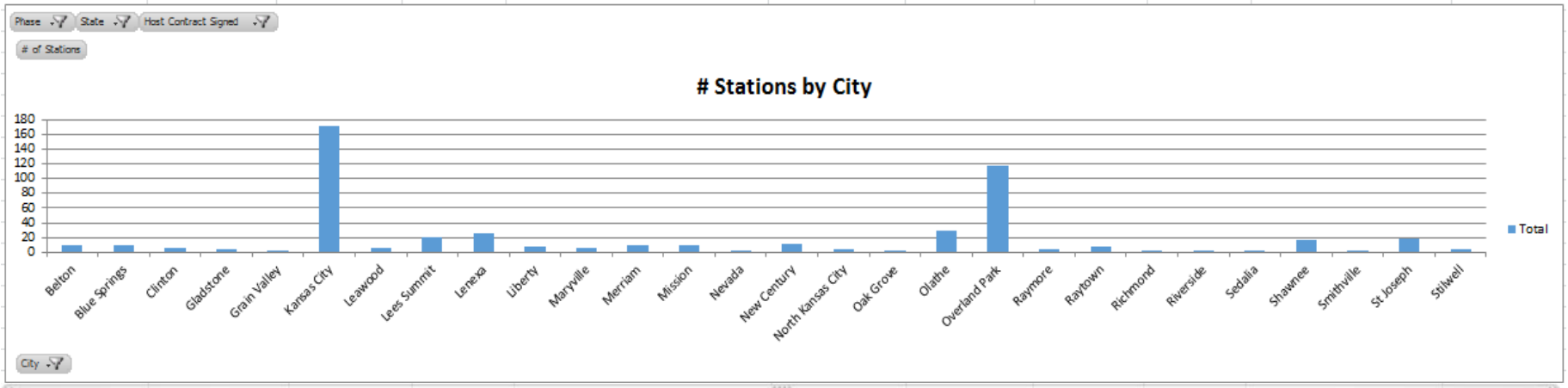
MO	10	45	20	8	28	7		79	97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Kansas City
Leawood
Lees Summit
Lenexa
Liberty
Maryville
Merriam
Mission
Nevada
New Century
North Kansas City
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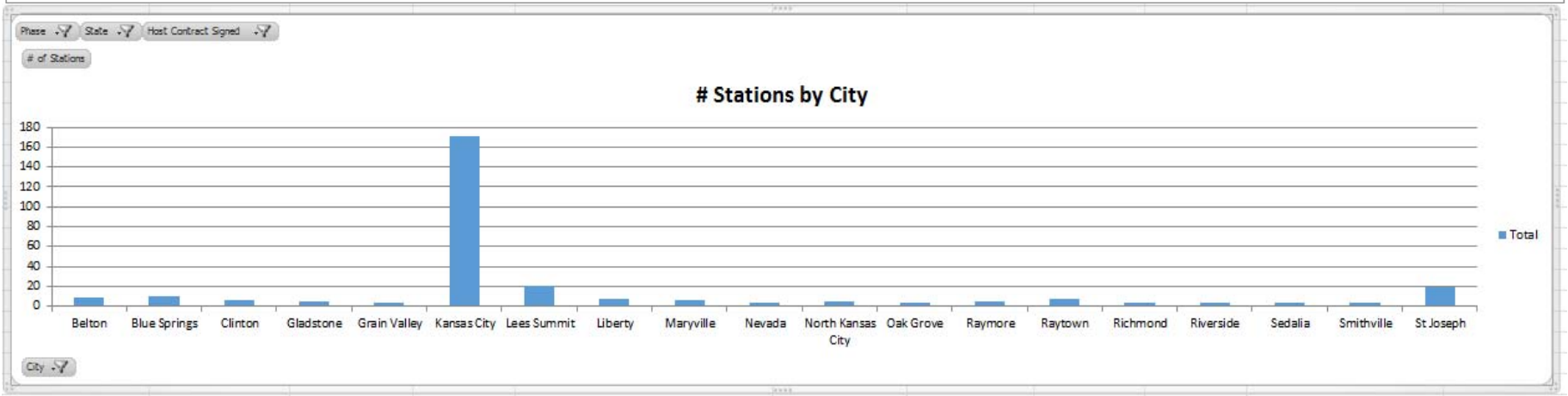
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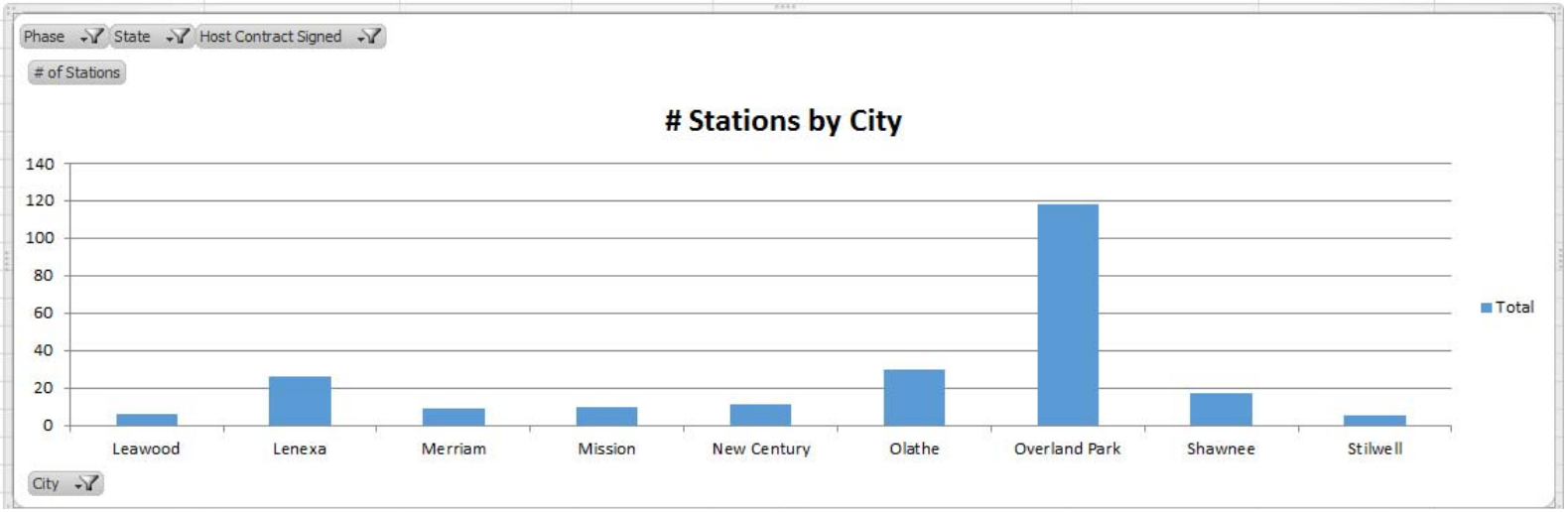
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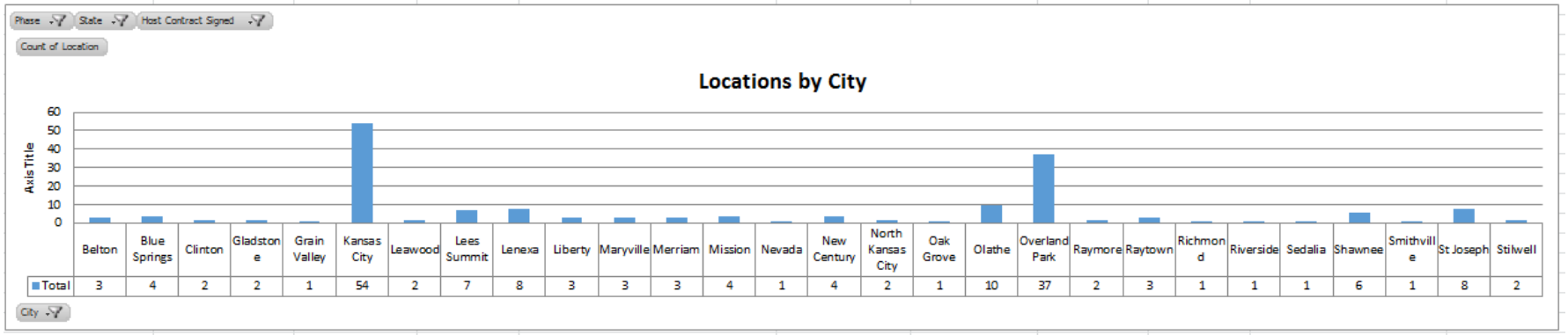
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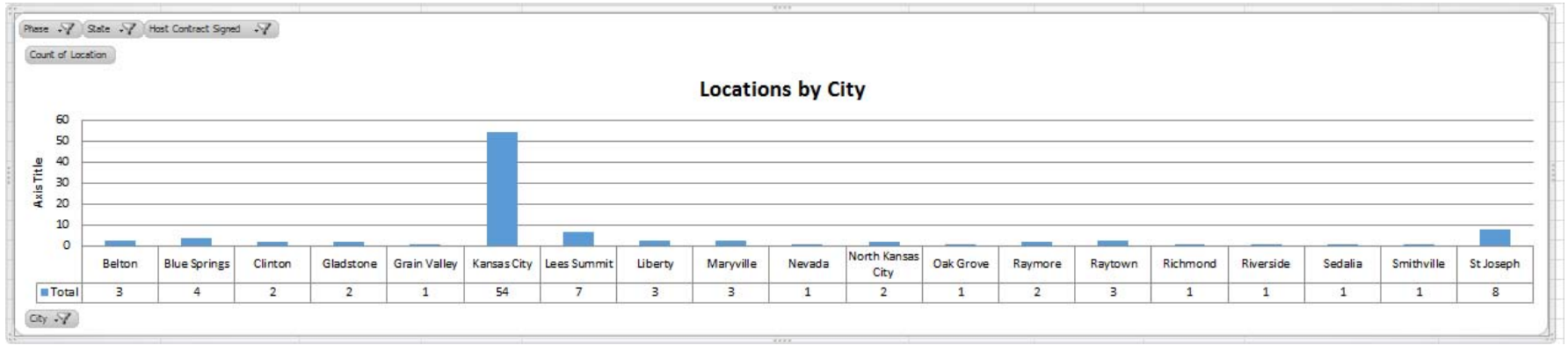
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Raymore
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Riverside
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City

MO


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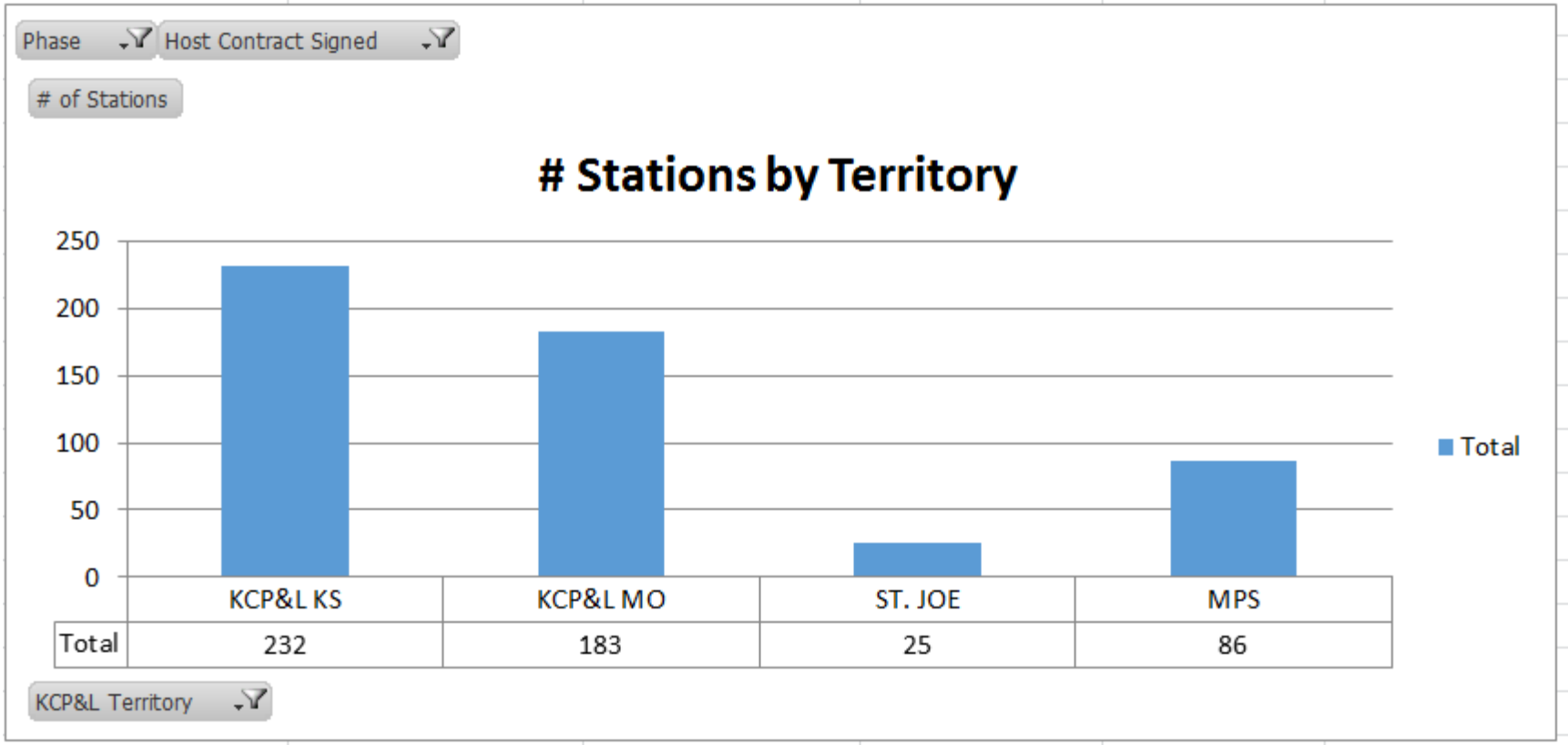
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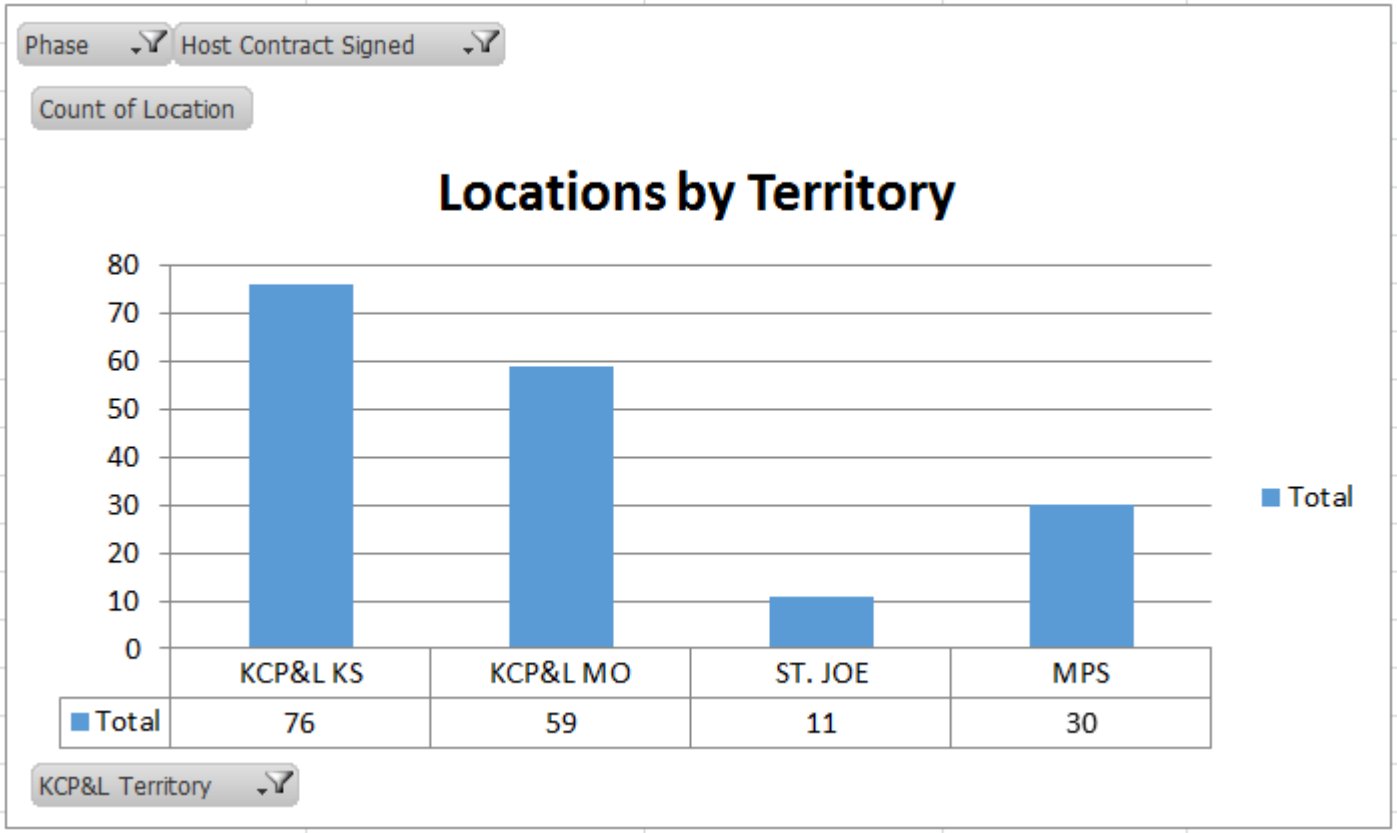
KCP&L Territory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