## 2017

## Park and Ride System Report



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## Executive Summary

The 2017 Park and Ride System Report provides a summary of current trends of the lowa Department of Transportation's park and ride system. The purpose is to document the performance and effectiveness of the system on a regular basis in accordance with the 2014 lowa Park And Ride System Plan under section 7.3 Periodic evaluation and review.


Iowa DOT's park and ride system currently offers an estimated 950 spaces across 23 park and ride facilities throughout the state. The system added 125 spaces to its capacity in 2016 with the opening of one new facility in Cedar Rapids through a partnership with Kirkwood Community College. One facility was temporarily closed in 2017, which removed 28 spaces from the overall system, while two more facilities have newly opened with one more being officially added soon, which will add nearly 15,50 , and 60 parking spaces for another 125 spaces. Additionally, three more facilities are anticipated to close later in 2018 due to construction, which would permanently remove another 35,50 , and 58 spaces from the system. The changes to park and ride capacity, both current and projected, is shown in Figure 1 and Figure 2.

The latest assessment of the system was conducted in late spring between the dates of February 28 and April 18, 2017 with a second assessment in the fall between October 19' and November 8, 2017 using Miovision traffic cameras to count vehicle usage of the facilities for 24 hours per day for roughly a week in the northeastern quadrant of the state and western half of the state. The counts include vehicles entering and leaving, as well as the direction the vehicles arrived from and departed towards. The latest counts are compared to manual vehicle counts conducted in the summer of 2015, which generally only measured overall vehicles present at the lot between 6 am and 6 pm Monday through Thursday.

## Current Status and Future Changes to Park and Ride System Capacity



Between 2016 and 2017, three new park and ride lots have been added to the system; (1) Kirkwood Blvd and $66^{\text {th }}$ Ave in Cedar Rapids, Linn County with 125 spaces in 2016; (2) U.S. 20 and $20^{\text {th }}$ Ave in Dyersville, Dubuque County with 15 spaces in 2017; and (3) I-80 and U.S. 61 in Davenport, Scott County with 60 spaces in 2017. All three lots were added by various means with the Kirkwood Blvd lot added through a public-public partnership between the lowa DOT and Kirkwood College through an agreement to utilize the college-owned parking area. The Dyersville lot was added after the district planner identified an underutilized lowa DOT-owned parcel, with construction beginning once public input validated the need for additional commuter parking. The Davenport lot was a public-private partnership between the lowa DOT and Thunderbay Grille. Thunderbay agreed to maintain the lowa DOT-owned paved lot in exchange for utilizing it, free of charge, for overflow parking at its restaurant.

In 2017, (4) U.S. 65 and IA 117 in Jasper County with 28 spaces was temporarily closed due to construction of the interchange. The realignment of these routes will also result in movement of the park and ride which will be located further north. This project is anticipated to be completed in 2018.

Starting sometime after 2019, (5) U.S. 30 and U.S. 218 in Benton County with 35 spaces, along with (6) U.S. 30 and V66 in Benton County with 50 spaces, and (7) U.S. 30 and IA 21 in Tama County with 58 spaces will become impacted by construction work along the U.S. 30 corridor. U.S. 218 will permanently close and be temporarily moved to an alternate location at V66. IA 21 and V66 will eventually permanently close once U.S. 30 construction reaches those locations.

## Count Plan



Counts in 2017 took place in northeast lowa and in west lowa (depicted in purple). During this period, (1) U.S. 59 and IA 141 in Crawford County was not collected on due to the Miovision camera experiencing weather issues (wind). This location is not anticipated to receive an updated count until spring of 2019.

Due to the ongoing construction in Jasper County, (2) U.S. 65 and IA 117 could not be counted for the spring of 2018 period. This location is tentatively scheduled to be collected during fall of 2018, dependent on when the construction concludes and as time allows.

Newer park and ride lots at (3) U.S. 20 and $20^{\text {th }}$ Ave and (4)I-80 and U.S. 61 in Dyersville and Davenport were not counted in 2017 since they were added to the system after those regions were counted. Counts are planned for those locations in fall of 2018.

Miovision camera counts are scheduled to occur in spring and fall of 2018 in southeast and northeast lowa depicted in green. The southeast lowa lots have already been collected as of 23 March 2018 but still need to be counted and tabulated. Northeast lowa lots will be covered sometime during fall of 2018 (tentatively October-November timeframe).

## Statewide Park and Ride Usage



| PRID | Location | County | Max |
| :---: | :--- | :---: | :---: |
| 602 | U.S. 30 and U.S. 218 | BENTON | 6 |
| 603 | U.S. 30 and V66 | BENTON | 4 |
| 801 | U.S. 30 and S Story St. | BOONE | 19 |
| 901 | U.S. 63 and C33 | BREMER | 3 |
| 1001 | U.S. 20 and IA 187 | BUCHANAN | 5 |
| 1901 | U.S. 63 and U.S. 18 | CHICKASAW | 3 |
| 2504 | I-80 and U.S. 169 | DALLAS | 20 |
| 3901 | IA 4 and IA 141 | GUTHRIE | 2 |


| PRID | Location | County | Max |
| :---: | :--- | :---: | :---: |
| 4801 | IA 21 and IA 212 | IOWA | 2 |
| 4802 | U.S. 6 and V77 | IOWA | 1 |
| 5703 | Kirkwood Blvd SW and 66th Ave | LINN | 6 |
| 7201 | IA 9 and Northwest Blvd. | OSCEOLA | 3 |
| 8301 | U.S. 59 and IA 37 | SHELBY | 4 |
| 8401 | U.S. 75 and IA 10 | SIOUX | 14 |
| 8601 | U.S. 30 and IA 21 | TAMA | 5 |
| 8801 | U.S. 34 and Quail Ave. | UNION | 0 |

## Methodology

## Manual Counts

In 2015, the Office of Systems Planning counted park and ride lot usage at the existing lots. The park and ride counting effort was conducted at the same time as the summer traffic counting using summer temporary DOT employees.

A total of 22 park and ride counts were conducted; 11 of them counted during the week of Monday 7/20/2015 through Thursday 7/23/2015 while the remaining 11 were counted the week of Monday $7 / 27 / 2015$ through Thursday 7/30/2015. No manual counts were conducted on Friday, Saturday, or Sunday.

Manual counters would follow a process in which they arrive at 6am counting the number of vehicles that were already present. Then count vehicles coming in an out in 1 hour blocks from 6 am to 9am. While counting, they would also attempt to categorize the type of vehicle as well as count how many people were occupying the vehicles. The manual counters would return later at noon to count how many vehicles were present in the lot and then leave again, returning a few hours later at
 3 pm . They would continue counting vehicles in and out until 6 pm before concluding the daily count.

The results of these hardcopy/.pdf documents were later transcribed into an Excel spreadsheet into a format that best matched the format utilized for the Miovision camera results. In order to do so, the missing blocks of hours from 10am - 11am and 12pm - 3pm were extrapolated based on the hours preceding and following those time periods. By doing so, this produced a single, solid trend line that represented what was interpreted as the "Usage", meaning vehicles that were parked at the lot for at least an hour.

One point worth noting is that nearly all of the 22 counts were performed by separate individuals. This resulted in different ways of recording their observations making it difficult to consistently transcribe the information into a format that is standardized across all counts. Additionally, the direction of arrivals and departures was not recorded.

## Miovision Cameras

In 2017, the Office of Systems Planning, instead of using manual counters, decided that the Miovision cameras would be leveraged. The intent was to have a record of the count that could be referred back to which facilitated a more consistent way of observing traffic. Additionally, most of the camera positions allowed for the evaluation of directionality of commuters (i.e., where they come from and where they go). These devises also have the added advantage of not requiring nearly as much personnel to conduct the counts. Emplacement and retrieval of the devices was quick and easy while counting could be done back in the office with much fewer people.

To prevent tampering, the cameras are secured with multiple padlocks that enclose the control unit, secure the unit and backup battery to the frame, and secure the Kevlar straps and ratchets that attach the frame to the
 pole. As an added level of security, a thick chain is wrapped around the frame and the pole with a separate padlock.

These devices can be used for 7 - 10 days out in the field as long as multiple SD Cards and the extra battery pack is included. The resolution of the cameras is such that license plates are impossible to discern but fair enough
 that vehicle types can be made out. People that are present in the park and ride lots are difficult to make out beyond a moving silhouette which makes it difficult to determine specific activities or even count how many people are present.

Video is reviewed in an office setting and counts recorded at our own pace. VLC Video Player software was installed on our machines to allow for the
 speeding up and slowing down of the video. Speeds of up to $4 x$ was used to quickly assess non-busy times such as overnights. The advantage of having it recorded is that if something was missed, it was very easy to rewind and review it again.

For assessing "usage," we first recorded how many vehicles entered and exited the lot by direction over the course of an hour. Vehicles that turned around or waited for a short time before leaving were still counted. At the end of the hour, departures were subtracted from arrivals to determine "usage," which was used to represent commuters, park and ride users, and anyone else staying in the lot between hourlong blocks.

## Park and Ride Lot Assessments

District 1

| U.S. 30 and IA 21 |  |
| :--- | :--- |
| Park and Ride ID: | 8601 |
| County: | Tama |
| Area (ft ${ }^{2}$ approx.): | 20,400 |
| Surface Type: | Gravel |
| Estimated Spaces: | 58 |
| Counts: | $7 / 20 / 2015-7 / 23 / 2015$ (manual) |
|  | $2 / 28 / 2017-1 / 16 / 2017$ (Miovision) |






| U.S. 30 and S Story Street |  |
| :--- | :--- |
| Park and Ride ID: | 801 |
| County: | Boone |
| Area ( $\mathrm{ft}^{2}$ approx.): | 68,000 |
| Surface Type: | Asphalt |
| Estimated Spaces: | 166 |
| Counts: | $7 / 20 / 2015-7 / 23 / 2015$ (manual) |
|  | $10 / 19 / 2017-10 / 25 / 2017$ (Miovision) |




## Departures






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| I-80 and U.S. 169 |  |
| :--- | :--- |
| Park and Ride ID: | 2504 |
| County: | Dallas |
| Area ( $\mathrm{ft}^{2}$ approx.): | 7,200 |
| Surface Type: | Gravel |
| Estimated Spaces: | 20 |
| Counts: | $7 / 20 / 2015-7 / 23 / 2015$ (manual) |
|  | $10 / 19 / 2017-10 / 25 / 2017$ (Miovision) |






## District 2

| U.S. 20 and IA 187 |  |
| :--- | :--- |
| Park and Ride ID: | 1001 |
| County: | Buchanan |
| Area (ft ${ }^{2}$ approx.): | 3,000 |
| Surface Type: | Gravel |
| Estimated Spaces: | 7 |
| Counts: | $7 / 20 / 2015-7 / 23 / 2015$ (manual) |
|  | $4 / 12 / 2017-4 / 18 / 2017$ (Miovision) |






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| U.S. 63 and C33 |  |
| :--- | :--- |
| Park and Ride ID: | 901 |
| County: | Bremer |
| Area (ft approx.): | 6,200 |
| Surface Type: | Gravel |
| Estimated Spaces: | 13 |
| Counts: | $7 / 20 / 2015-7 / 23 / 2015$ (manual) |
|  | $4 / 12 / 2017-4 / 15 / 2017$ (Miovision) |






| U.S. 63 and U.S. 18 |  |
| :--- | :--- |
| Park and Ride ID: | 1901 |
| County: | Chickasaw |
| Area (ft ${ }^{2}$ approx.): | 59,000 |
| Surface Type: | Gravel |
| Estimated Spaces: | 101 |
| Counts: | $7 / 20 / 2015-7 / 23 / 2015$ (manual) |
|  | $4 / 12 / 2017-4 / 16 / 2017$ (Miovision) |






## District 3

| U.S. 75 and IA 10 |  |
| :--- | :--- |
| Park and Ride ID: | 8401 |
| County: | Sioux |
| Area (ft ${ }^{2}$ approx.): | 7,600 |
| Surface Type: | Gravel |
| Estimated Spaces: | 22 |
| Counts: | $7 / 27 / 2015-7 / 30 / 2015$ (manual) |
|  | $11 / 2 / 2017-11 / 8 / 2017$ (Miovision) |






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| IA 9 and Northwest Blvd. |  |
| :--- | :--- |
| Park and Ride ID: | 7201 |
| County: | Osceola |
| Area (ft ${ }^{2}$ approx.): | 34,700 |
| Surface Type: | Gravel |
| Estimated Spaces: | 68 |
| Counts: | $7 / 27 / 2015-7 / 30 / 2015$ (manual) |
|  | $11 / 2 / 2017-11 / 8 / 2017$ (Miovision) |






## District 4

| U.S. 59 and IA 37 |  |
| :--- | :--- |
| Park and Ride ID: | 8301 |
| County: | Shelby |
| Area (ft ${ }^{2}$ approx.): | 6,300 |
| Surface Type: | Gravel |
| Estimated Spaces: | 16 |
| Counts: | $7 / 27 / 2015-7 / 30 / 2015$ (manual) |
|  | $11 / 2 / 2017-11 / 8 / 2017$ (Miovision) |






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| U.S. 34 and Quail Ave |  |
| :--- | :--- |
| Park and Ride ID: | 8801 |
| County: | Union |
| Area (ft ${ }^{2}$ approx.): | 17,500 |
| Surface Type: | Concrete |
| Estimated Spaces: | 14 |
| Counts: | $7 / 27 / 2015-7 / 30 / 2015$ (manual) |
|  | $10 / 19 / 2017-10 / 25 / 2017$ (Miovision) |








| IA 4 and IA 141 |  |
| :--- | :--- |
| Park and Ride ID: | 8801 |
| County: | Union |
| Area (ft approx.): | 16,300 |
| Surface Type: | Gravel |
| Estimated Spaces: | 15 |
| Counts: | $7 / 27 / 2015-7 / 30 / 2015$ (manual) |
|  | $10 / 19 / 2017-10 / 25 / 2017$ (Miovision) |






## District 6

| U.S. 30 and U.S. 218 |  |
| :--- | :--- |
| Park and Ride ID: | 602 |
| County: | Benton |
| Area (ft ${ }^{2}$ approx.): | 14,600 |
| Surface Type: | Gravel |
| Estimated Spaces: | 35 |
| Counts: | $7 / 20 / 2015-7 / 23 / 2015$ (manual) |
|  | $2 / 28 / 2017-3 / 6 / 2017$ (Miovision) |






| U.S. 30 and V66 |  |
| :--- | :--- |
| Park and Ride ID: | 603 |
| County: | Benton |
| Area ( $\mathrm{ft}^{2}$ approx.): | 18,000 |
| Surface Type: | Gravel |
| Estimated Spaces: | 50 |
| Counts: | $3 / 8 / 2017-3 / 14 / 2017$ (Miovision) |
|  |  |






| IA 21 and IA 212 |  |
| :--- | :--- |
| Park and Ride ID: | 4801 |
| County: | lowa |
| Area (ft approx.): | 13,000 |
| Surface Type: | Gravel |
| Estimated Spaces: | 19 |
| Counts: | $7 / 20 / 2015-7 / 23 / 2015$ (manual) |
|  | $3 / 28 / 2017-4 / 3 / 2017$ (Miovision) |






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| U.S. 6 and V77 |  |
| :--- | :--- |
| Park and Ride ID: | 4802 |
| County: | lowa |
| Area (ft ${ }^{2}$ approx.): | 4,400 |
| Surface Type: | Gravel |
| Estimated Spaces: | 14 |
| Counts: | $7 / 20 / 2015-7 / 23 / 2015$ (manual) |
|  | $3 / 28 / 2017-4 / 3 / 2017$ (Miovision) |


7
6

| $7 \text { Weekday Peak Usage }$ |  |
| :---: | :---: |
| $5$ |  |
|  |  |
| 3 |  |
| 2 |  |
| $\begin{aligned} & 1 \\ & 0 \end{aligned}$ |  |
|  |  |



| Kirkwood Blvd SW and $\mathbf{6 6}^{\text {th }}$ Ave SW |  |
| :--- | :--- |
| Park and Ride ID: | 5703 |
| County: | Linn |
| Area ( $\mathrm{ft}^{\mathbf{2}}$ approx.): | 25,000 |
| Surface Type: | Concrete |
| Estimated Spaces: | 125 |
| Counts: | $3 / 28 / 2017-4 / 3 / 2017$ (Miovision) |
|  |  |




Departures





# For more information, contact: Iowa Department of Transportation <br> Office of Systems Planning <br> 800 Lincoln Way <br> Ames, IA 50010 

Phone: 515-239-1664
Fax: 515-233-7857

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