

---

## Memorandum

2400 Pershing Road  
Suite 400  
Kansas City, MO 64108  
Tel 816 329 8600  
Fax 816 329 8601

www.transystems.com

---

**To:** Ms. Ashley Smith  
Ground Up Development of Missouri, LLC  
1203 E. US Highway 24  
Independence, Missouri 64015

**From:** Chad Banka, PE, PTOE

**Date:** July 13, 2022

**Project No.:** P101200135

---

**Subject:** **McBee Landing Trip Generation Comparison  
Independence, Missouri (REV 2)**

---

TranSystems has prepared the following trip generation comparison for the proposed changes to the senior living portion of the McBee Landing development, generally located on the south side of the 23rd Street at Haden Street in Independence, Missouri. The comparison was made between the previously approved development plan and the proposed development plan. TranSystems completed the approved Traffic Impact Study (TIS) for the McBee Landing development in June 2020 and issued the first revision on June 7, 2022. The current site plan is attached and includes two additional acres of in the southeast corner making a total of 108 (last revision had 92 units) adult housing units.

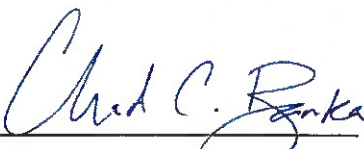
McBee Landing is a mixed-use development that consists of three different land uses. The site includes an automated car wash, office space, and senior living housing. The site is currently being prepared for construction with grading and other construction related tasks. The car wash is currently under construction and will be the first portion of the site to open. The independent senior living portion of the site, referred to as Windmill Estates, is an independent, 55+ housing community. The proposed plan increases the senior housing units from the previously approved 68 senior housing units to 108 units. The land use and intensities for all other portions of the development site will remain the same as the approved plan.

The internal street network of the site generally remains the same. The previously approved plan indicated a cul-de-sac along the east side of the site between the senior living development and the existing parking lot east of the site. The cul-de-sac has been removed and the roadway will connect with the existing minor roadway on the east side of the development, adjacent to Discount Tire. This connection will be marked as an "exit only". The two previously approved driveways along 23rd Street will remain and are expected to carry nearly all of traffic coming to and from the site. The revised connection to the internal street design is anticipated to have a nominal impact on the traffic volume distribution. Trips were not redistributed since the approved TIS is more conservative at the development driveways.

Trip generation estimates were prepared using the latest edition of the Institute of Transportation Engineer's (ITE) Trip Generation, 11th Edition. Previously approved trip generation estimates were prepared using the 10th Edition of Trip Generation. ITE released the 11th Edition in September 2021. The Senior Adult Housing- Single Family (ITE Code 251) was selected because this land code includes a 55+ community with little to no medical supervision and closely aligns with the proposed facility. The Automated Car Wash (ITE Code 948) does not provide information regarding average weekday and A.M. peak hour data. Therefore, those trip generation values were estimated and remained the same as the previously approved plan. Pass-by trips also remained the same as the previously approved plan.

| McBee Landing<br>Trip Generation Comparison                            |           |          |                 |                |           |           |                |           |            |
|--|-----------|----------|-----------------|----------------|-----------|-----------|----------------|-----------|------------|
| Land Use   | Intensity | ITE Code | Average Weekday | A.M. Peak Hour |           |           | P.M. Peak Hour |           |            |
|  |           |          |                 | Total          | In        | Out       | Total          | In        | Out        |
| <b>Previously Approved Development Plan (10th Edition)</b>             |           |          |                 |                |           |           |                |           |            |
| Automated Car Wash   | 5,200 sf  | 948      | 400             | 8              | 4         | 4         | 74             | 37        | 37         |
| General Office Building  | 10,400 sf | 710      | 168             | 36             | 31        | 5         | 14             | 2         | 12         |
| Senior Adult Housing- Detached   | 68 units  | 251      | 401             | 31             | 10        | 21        | 36             | 22        | 14         |
| <b>Total Development Trips</b>   |           |          | <b>969</b>      | <b>75</b>      | <b>45</b> | <b>30</b> | <b>124</b>     | <b>61</b> | <b>63</b>  |
| Pass-by Trips (40% of car wash)  |           |          | –               | –              | –         | –         | 30             | 15        | 15         |
| Non-Pass-by Trips  |           |          | 969             | 75             | 45        | 30        | 94             | 46        | 48         |
| <b>Total New Development Trips</b>                                     |           |          | <b>969</b>      | <b>75</b>      | <b>45</b> | <b>30</b> | <b>94</b>      | <b>46</b> | <b>48</b>  |
| <b>Proposed Development Plan (11th Edition)</b>                        |           |          |                 |                |           |           |                |           |            |
| Automated Car Wash   | 5,200 sf  | 948      | 400             | 8              | 4         | 4         | 74             | 37        | 37         |
| General Office Building  | 10,400 sf | 710      | 162             | 24             | 21        | 3         | 25             | 4         | 21         |
| Senior Adult Housing- Single-Family                                    | 108 units | 251      | 633             | 41             | 13        | 28        | 47             | 29        | 18         |
| <b>Total Development Trips</b>   |           |          | <b>1,195</b>    | <b>73</b>      | <b>38</b> | <b>35</b> | <b>146</b>     | <b>70</b> | <b>76</b>  |
| Pass-by Trips (40% of car wash)  |           |          | –               | –              | –         | –         | 30             | 15        | 15         |
| Non-Pass-by Trips  |           |          | 1,195           | 73             | 38        | 35        | 116            | 55        | 61         |
| <b>Total New Development Trips</b>                                     |           |          | <b>1,195</b>    | <b>73</b>      | <b>38</b> | <b>35</b> | <b>116</b>     | <b>55</b> | <b>61</b>  |
| <b>Difference between Previously Approved and Proposed Development</b> |           |          | <b>+226</b>     | <b>-2</b>      | <b>-7</b> | <b>+5</b> | <b>+22</b>     | <b>+9</b> | <b>+13</b> |

The impact of a proposed development is based on the amount of traffic generated during peak hours, when existing traffic volumes on adjacent streets are at their highest levels. The results in the table indicate that the change to the proposed development plan is expected to generate 2 less trips during the A.M. peak hour and 22 additional trips during the P.M. peak hour. This equates to roughly one additional trip every three minutes during the P.M. peak hour. The reduction in the A.M. peak hour is due to the reduction in trip generation of the office space (ITE Code 710) between the 10th and 11th Editions of Trip Generation. The change in trip generation is nominal and is not anticipated to change the operations or previously approved recommendations.

  
Chad C. Banka, PE, PTOE

