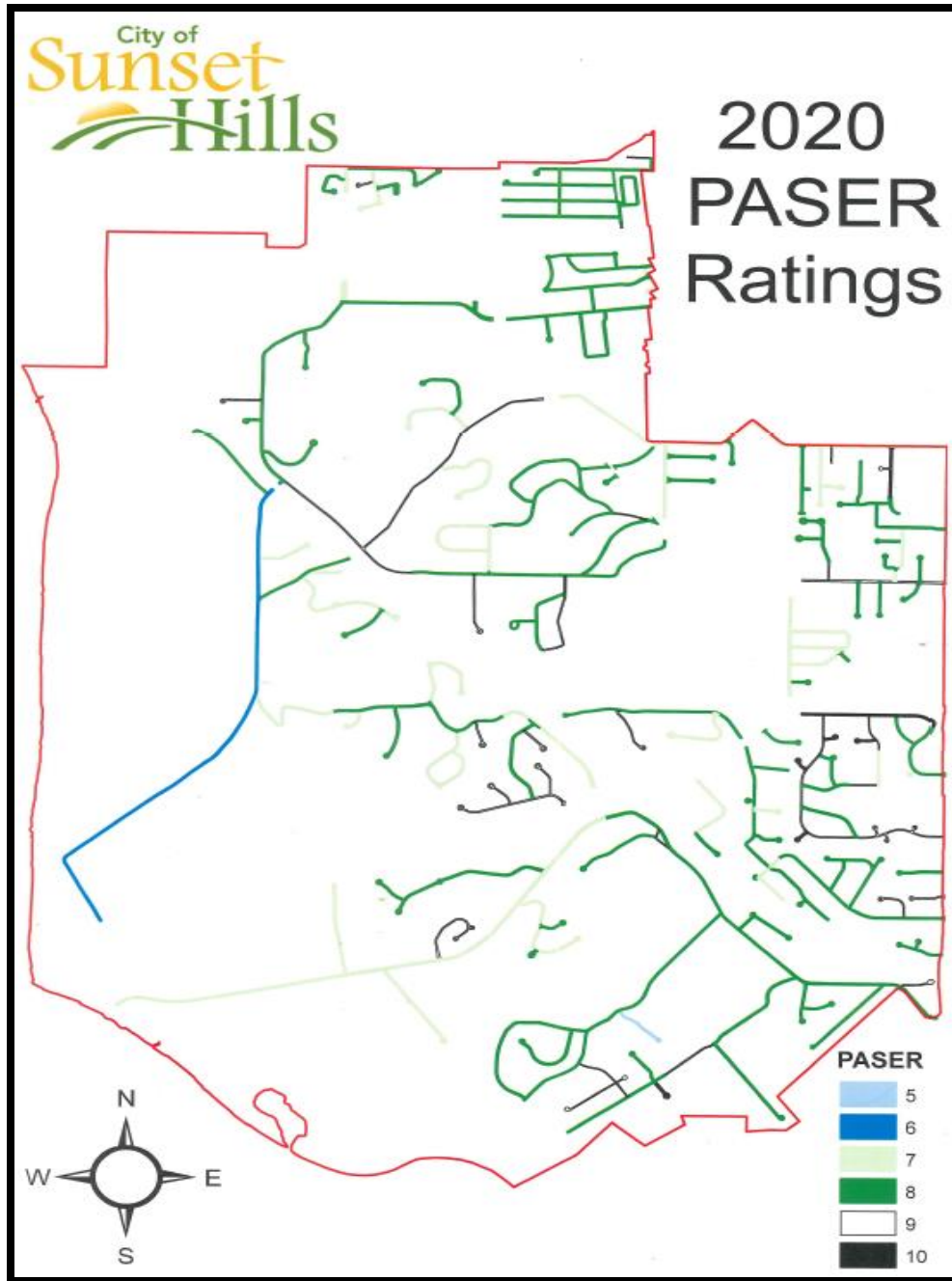


City of Sunset Hills - 2020 Pavement Condition Results

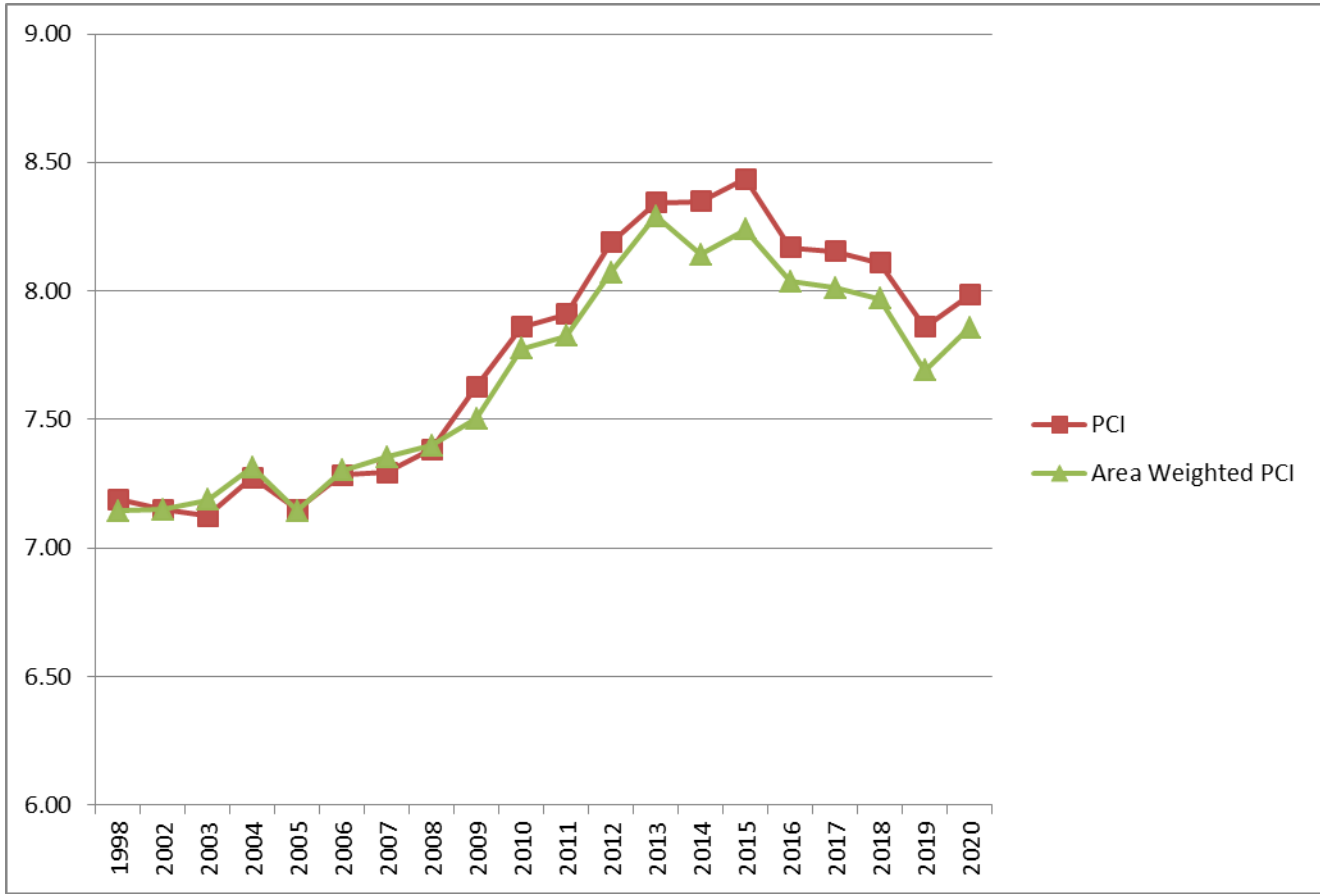
Recently (2-6-19 to 2-7-19), City pavement was inspected for PASER ratings. As in past years, this data was input into the Pavement Management System, related into GIS, parsed into an Excel spreadsheet, and results graphed. This report will summarize the results with some commentary.



For 2020, it was a bit of a surprise to see how when we produced the map in GIS, that it indicated not only did we improve our asphalt street network, but we achieved a fairly consistent base of 7 & 8 (out of a possible 10) PASER ratings on both concrete and asphalt related pavements. West Watson and Mentz Hill Acres were stand-outs on the low side, while the low rating on Hadley Hill in 2019 was eliminated via a simple Chip & Seal.

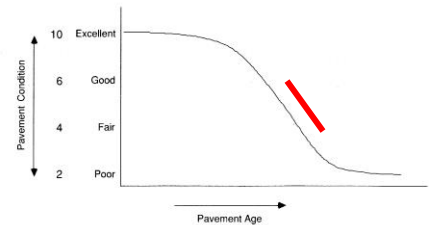
City of Sunset Hills - 2020 Pavement Condition Results

Network-wide



This Network-wide graph confirms that we hoped to make substantial improvement in our overall pavement PASER rating in 2019. We went from the mid to upper 7's on the PASER scale. (2019/7.69 - 2020/7.86) Overall, we turned the negative downward trend into an upward direction mainly due to our expanded use of small aggregate Chip Seals.

While our work in 2019 took on projects that did not positively impact the street network like the Campus Pavement Phase I and Mentz Hill Bridge Rehabilitation projects, we were able to focus on asphalt pavement improvement via Nova Chip and Chip Seals of numerous asphalt pavements. While street network PASER ratings should remain pre-eminent, it is important to make sure that the 2nd half of the Campus Improvement Project is funded aptly in 2021. The remaining pavement is degrading rapidly with "Alligatoring" and severe raveling of the pavement. We are at the "end of life" area of the Quality versus Time curve regarding the performance of this pavement. Hopefully that project will be feasible with the planned improvement of West Watson starting in a two-year phased construction project that will have 80% reimbursement from East West Gateway.



City of Sunset Hills - 2020 Pavement Condition Results

Overall, we should consider the congealing of PASER ratings across the network as an excellent indicator of the progress the Public Works Department is making toward our stated goal of “upping the game toward asphalt street maintenance.” We are now consistent with sustainable maintenance programs for both concrete and asphalt related pavements.

In recent years, we noticed that several asphalt pavements were starting to fall into the “need for renovation via contracted work” category. Some of these were lengthy pavement sections. We mitigated more severe degradation (as promised) with small aggregate Chip Seals, as approved as a maintenance activity by the Public Works Committee in June of 2017. We have received a few isolated complaints regarding “knock-off” of the small aggregate Chip Seals, but the Street Department has been keenly reactive to these matters. This level of response allowed the apt perception that small aggregate Chip Seals are indeed the proper application for asphalt street pavement maintenance.

Concrete pavement (network wide) continues to trend downward, but that should be negated with work anticipated for 2020. We remain in the low 8’s on the PASER scale. (2019/8.19 – 2020/8.01) The rate of degradation was stemmed with in-house slab replacement of about 20 slabs. This work actually yielded a 1 point improvement in the PASER ratings on Cinema, Matthews, Black Oak, Robyn Hills and Grandview Lake Drive.

This year we have some concrete contract work programmed. The department is studying this year’s inspection results to determine where to best apply contract efforts. Again, the City Street Department should be commended for their slab replacement efforts, especially given their stated purpose as a “maintenance organization.” The Street Department also continues to maintain and improve our sidewalk network.

We are close to completing our goal to remove Micro Seal pavements network-wide. Wembley Woods, Hausfel, Kennerly (stub), Saller, and Parkholm were completed in 2019. Mentz Hill Acres was not accomplished in 2019 due to the bridge renovation of that street. The replacement via a profile grind & Nova Chip of West Watson (south of I-270) and Robyn (between Lindbergh and Eddie & Park) will finish this process for the City, thus completing the proper remediation of these pavements. Concerns over delamination of the old Micro Seals will keep us from applying Chip Seals direct to Micro-sealed pavements. We’ll want to continue to wait on Robyn (between Lindbergh and Eddie & Park) as we currently understand 2020 will be the year for a water main replacement here by Missouri American Water.

We’ll be more specific under the each of the pavement types of Concrete, Asphalt over Concrete, and Full Depth Asphalt to complete this report.

Concrete Pavement

As covered in the “Network-wide” comments section, we continued the downward trend on the concrete pavement. The rate of this fall was tempered by some targeted in-house slab replacement in Wards 3 & 4. The Street Department received compliments from residents, some filtered through Alderman Krueger on their concrete work. Apparently the lower concentration of these replacements and the general coordination of work by staff (especially where driveway aprons were impacted) were well received. Spreading out contract slab replacement work might enter into our consideration in 2020, especially since the overall network is not indicating a lower PASER in one of the general 3-year cycle concrete slab areas of the City. We can anticipate mild improvement on our concrete pavement with work

City of Sunset Hills - 2020 Pavement Condition Results

planned in 2020 since concrete represents a large portion of our street network. There are 109 sections of concrete pavement, including 312,413 SY, or 44% of the City's street network. Any move of the average concrete PASER will represent a general trend of our overall performance of Pavement Management.

Concrete Pavement

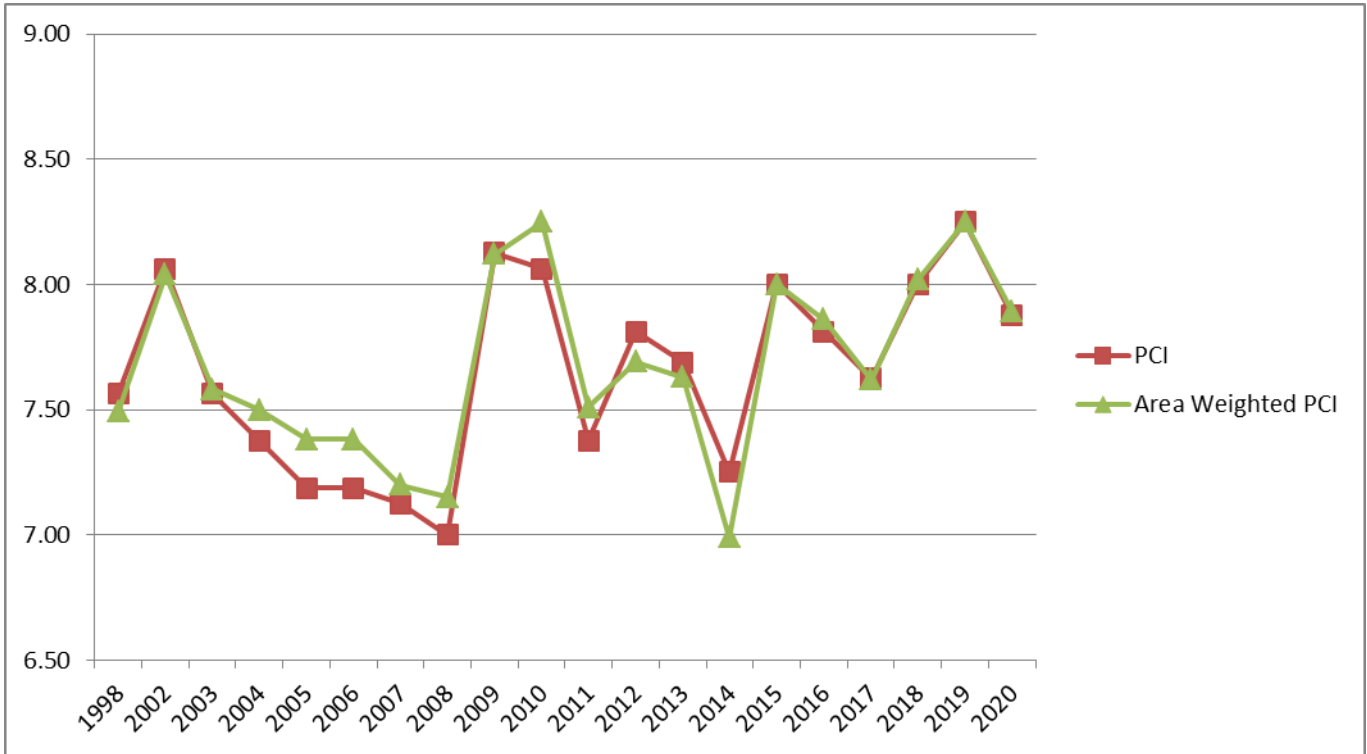


Asphalt over Concrete Pavement

Asphalt over Concrete is a relatively small portion of our street network with 16 sections representing 51,920 SY, or 7% of the City's pavement. Dramatic moves of the Average PASER in this section of street pavement are expected each inspection year for these street sections. The 2018 Nova Chip of the Richview subdivision dropped from a 9 to an 8 on these streets reflecting the overall drop this year of asphalt over concrete network. As Nova Chip will reflect cracks in just a few years, we should anticipate the application of Chip Seal on these pavements in a couple of years. We understand there will be a need to separate out Nova pavements from regular asphalt pavements for first Chip Seal applications in the bid package. This is due to the porosity of the Nova Chip pavement requiring a higher amount of binder for the Chip Seal.

City of Sunset Hills - 2020 Pavement Condition Results

Asphalt over Concrete Pavement

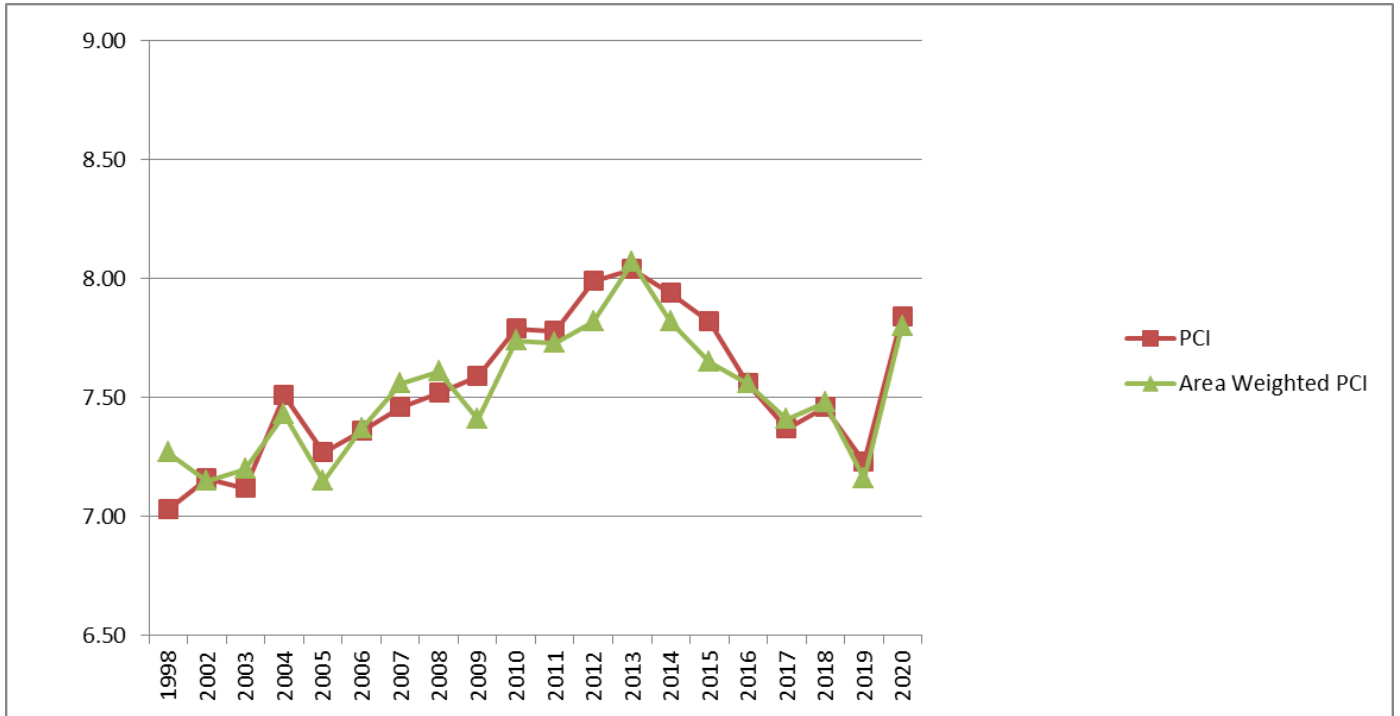


Full Depth Asphalt Pavement

You'll recall that Asphalt pavement has been the challenge for us to maintain since the "Say Yes" capital improvement program of the late 90's. We perform a number of industry leading activities designed to extend pavement life with CRF Seals, Reclamite, and now the small aggregate Chip Seals. The most effective of these was found to be a small aggregate form of the Chip Seal with 1/4" in lieu of 3/8" sieved rock. In the study of these treatments, the small aggregate Chip Seal has very little loose rock (aka "knock-off") after a week. Also, pavement markings can be re-established in a couple of weeks with temporary tabs laid down in the interim. With the blessing of the Public Works Committee in June of 2017, we feel that we've come up with the means to stem the proliferation of cracks, sealing them so that winter freeze-thaw cycles have minimal effect on diminishing pavement integrity. Water will be kept from getting sub-surface. Construction duration is much shorter minimizing the stress on our residents and overall, Chip Seals (as a general maintenance activity) performed on an "every few year" basis, will keep our asphalt network performing on an improved level. The consideration here is full depth asphalt represents 82 lengthy sections of street. This is 341,408 SY, or 49% of our street network.

City of Sunset Hills - 2020 Pavement Condition Results

Full Depth Asphalt Pavement



General trends on the Asphalt pavement graph above showed a significant upward spike with the work performed in 2019. This should continue with the 2020 asphalt program that will include more small aggregate Chip Seals. Anyone wanting to see a small aggregate Chip Seal can view the 6-year results on Oleander and the asphalt sections of both Meppen & Helta. With 2019's project, residents also have access to Maple, Robyn, Sunny Creek, Crooked Creek, Limestone Spur, Fox Glen, Denny, Hadley Hill, and Zachary's Ridge. The 2019 application of this maintenance activity was made across the board from high-end subdivisions (i.e. – Zachary's Ridge, Sunny Creek, and Fox Glen) to un-curbed connector routes with poor storm handling capabilities (i.e. Robyn and Maple). The value of Chip Seals should now be readily viewable to all the residents of Sunset Hills as a viable and needed maintenance activity for asphalt pavements. While the 2019 project included only 9 sections of the street network, the value of this improvement impacted 62,176 SY of asphalt pavement, or roughly 7½% of the entire asphalt related network. Whether you view it by section or area impacted, we made substantial strides in being able to maintain our asphalt network of streets with the small aggregate Chip Seals.

If there are questions, suggestions, need for clarifications, or the need to add anything to this report, please do not hesitate to reach out.