

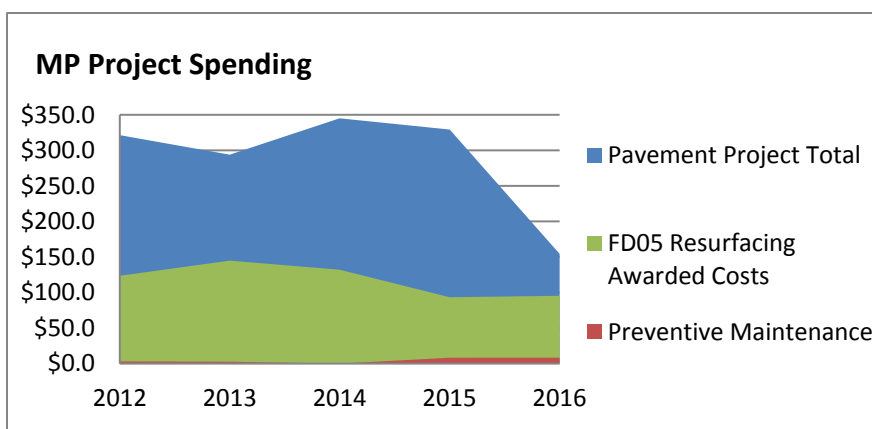
## 2016 MP PAVEMENT CONDITION REPORT

The Kentucky Transportation Cabinet (KYTC) maintains 13,473 centerline miles of MP system pavement. The MP system is comprised of non-Interstate and Parkway State Primary pavement, State Secondary pavement and Supplemental pavement. MP pavements are important for the economic wellbeing and safety of Kentucky. These pavements carry vehicular traffic, commercial traffic and are essential to the daily lives of residents.

The annual condition survey quantifies distress and determines when a pavement is due for preventive maintenance, resurfacing, or rehabilitation. This data is combined with project spending to express pavement condition as performance measures.

### Investment

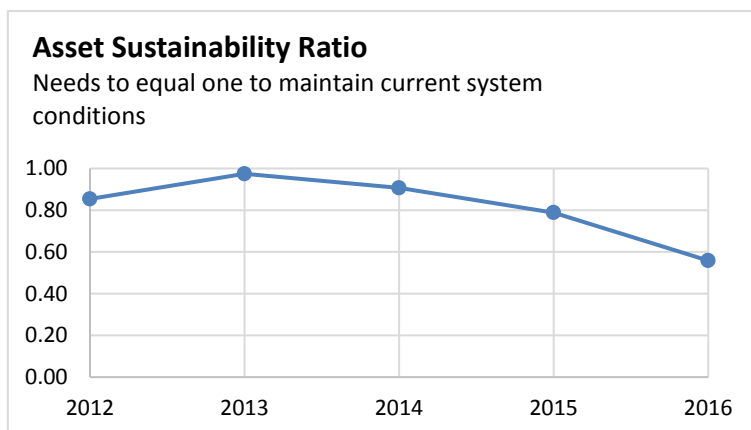
The KYTC experienced a funding drop of over 50% for MP pavements in 2016. During this time, the Cabinet spent \$148 million to provide treatments for roughly 722 centerline miles of the system. This level of investment requires pavements on the MP network to last 18.5 years on average between treatments.



### Asset Sustainability Ratio

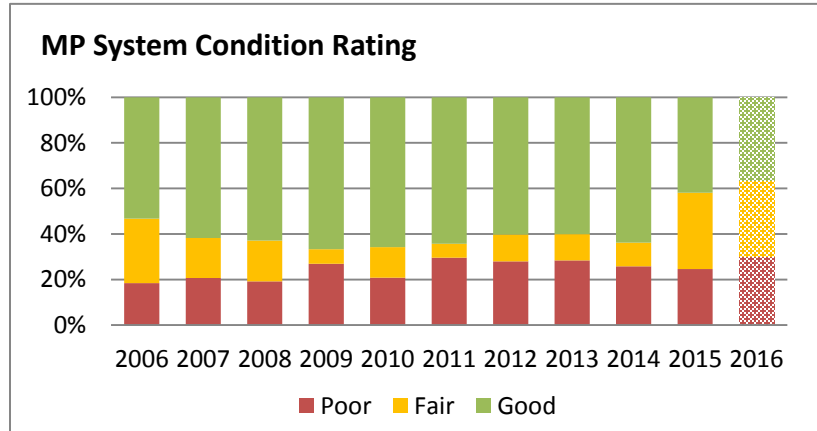
The Asset Sustainability Ratio (ASR) measures the effectiveness of KYTC pavement investments. The ASR helps the agency determine if pavements are being replaced or renewed at the same rate as they are wearing out. The target for the Asset Sustainability Ratio is one.

In 2016, 64% of the pavement budget was spent on traditional thin asphalt overlays, 30% went to rehabilitative treatments, capacity or safety improvements, and 6% was used for lower cost preventive maintenance treatments meant to preserve existing conditions. A balance between preservation, rehabilitation and preventive maintenance must be ensured for effective pavement management. The result of the current investment proportions is a further decline in ASR which indicates network conditions will continue to deteriorate.



## Pavement Condition

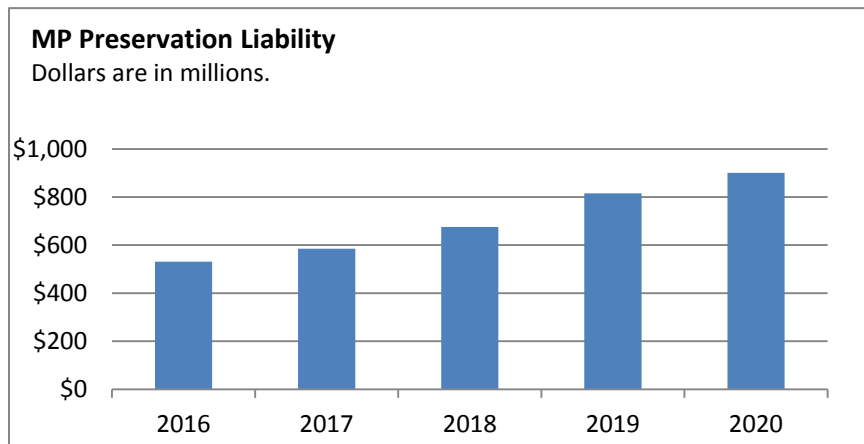
KYTC utilizes a sliding scale that holds high-traffic roadways to a higher standard of performance, rating the roadways as **good, fair or poor** depending upon the overall level of distress and the total traffic volume. A good pavement is smooth with few defects while a poor condition pavement is characterized by a rough ride and moderate to severe distresses.



In 2015 the Pavement Management Branch implemented methodology to more accurately assess the break between fair and good pavements based on improved data sources. As a result the percentage of fair pavement is increased beginning in 2015. The investments in 2013 and 2014 created a slight improvement on the MP network through 2015, decreasing the percentage of poor pavements to 25%. The project reductions in 2015 and 2016 will reverse the slight improvements that have been made.

## Preservation Liability

If funding is inadequate, some pavement preservation is deferred, incurring a future financial liability. The consequence of deferring pavement preservation becomes more severe as pavements age and require costlier interventions than if addressed earlier. Additionally, the resurfacing



needs remain unmanageable as rising costs lead to budgets that address fewer miles. The 2016 average cost for traditional asphalt resurfacing was \$151,000 per centerline mile while the projected average lifespan of an asphalt project has dropped to 10.4 years.

Assuming a sustained current budget level spent in similar proportions, an unfavorable trend of deterioration will continue. Pavement will be more costly to rehabilitate in the future and overall conditions will be difficult to improve through resurfacing alone. Projections indicate the MP network pavement liability will near \$1 billion by 2020.