

1086-VN-2203 **Gary F. Tiner*** (gtiner@faulkner.edu), 5345 Atlanta Hwy., Montgomery, AL 36109, and
Nancy Eaton. .

If G is a graph with average degree greater than $k - 2$, Erdős and Gallai proved that G contains a path on k vertices. Erdős and Sós conjectured that under the same condition, G should contain every tree on k vertices. Several results based upon the number of vertices in G have been proven including the special cases where G has exactly k vertices (Zhou), $k + 1$ vertices (Slater, Teo and Yap), $k + 2$ vertices (Woźniak) and $k + 3$ vertices (the second author of this paper). To strengthen these results, we will prove the Erdős-Sós conjecture holds if a longest path in G has at most $k + 3$ vertices (no restriction is imposed on the number of vertices of G).

(Received September 25, 2012)