Abstract. The regularity of solutions to optimal transportation problems has become a hot topic in current research. It is well known by now that the optimal measure may not be concentrated on the graph of a continuous mapping unless both the transportation cost and the masses transported satisfy very restrictive hypotheses (including sign conditions on the mixed fourth-order derivatives of the cost function). The purpose of this note is to show that in spite of this, the optimal measure is supported on a Lipschitz manifold, provided only that the cost is $C^2$ with non-singular mixed second derivative. We use this result to provide a simple proof that solutions to Monge’s optimal transportation problem satisfy a change of variables equation almost everywhere.